DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS FOR 1987

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

SECOND SESSION

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U.S. Department of
Transportation

BUDGET ESTIMATES

FISCAL YEAR 1987

FEDERAL AVIATION ADMINISTRATION

FEDERAL AVIATION ADMINISTRATION

Congressional Justification of Estimates of Appropriations for Fiscal Year 1987

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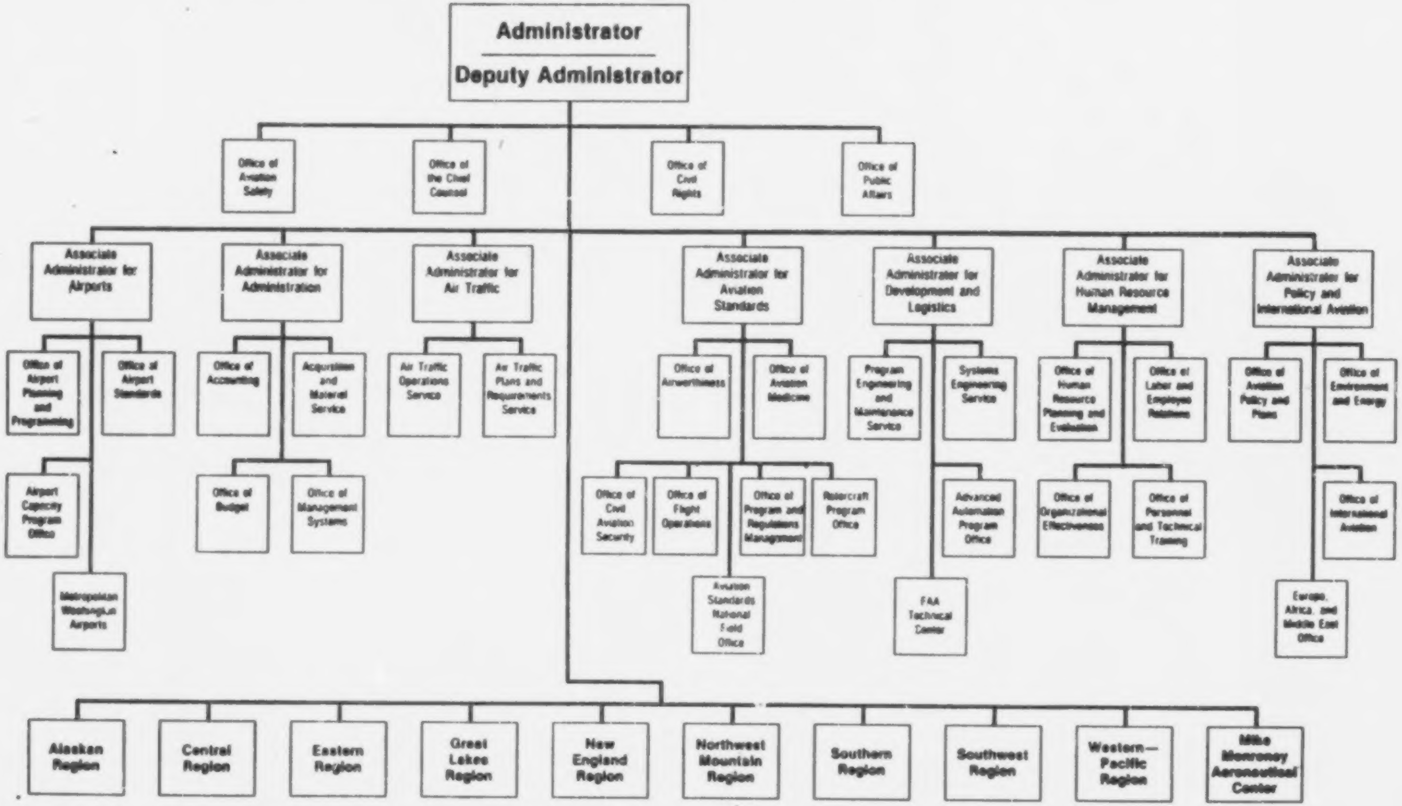
U.S. Department of Transportation

FEDERAL AVIATION ADMINISTRATION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Office of Management Systems
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Air Traffic Plans and Requirements Service
Associate Administrator for Aviation Standards
Office of Airworthiness
Office of Aviation Medicine
Office of Civil Aviation Security
Office of Flight Operations
Office of Program and Regulations Management
Rotorcraft Program Office
Aviation Standards National Field Office
Associate Administrator for Development and Logistics
Program Engineering and Maintenance Service
Systems Engineering Service
Advanced Automation Program Office
FAA Technical Center
Associate Administrator for Human Resource Management
Office of Human Resource Planning and Evaluation
Office of Labor and Employee Relations
Office of Organizational Effectiveness
Office of Personnel and Technical Training
Associate Administrator for Policy and International Aviation
Office of Aviation Policy and Plans
Office of Environment and Energy
Office of International Aviation
Europe, Africa, and Middle East Office
Alaskan Region
Central Region
Eastern Region
Great Lakes Region
New England Region
Northwest Mountain Region
Southern Region
Southwest Region
Western—Pacific Region
Mike Monroney Aeronautical Center

FEDERAL AVIATION ADMINISTRATION

GENERAL STATEMENT

Legislative Authority

The Federal Aviation Administration functions as an operating administration within the Department of Transportation pursuant to the Department of Transportation Act, P.L. 89-670.

Aeronautical services are provided by the Federal Aviation Administration under authority of several statutes, the more important of which are identified below.

1. The Federal Aviation Act of 1958 created the Federal Aviation Agency and provides for the regulation and promotion of civil aviation so as to foster its development and safety and to assure the safe and efficient use of the air space by both civil and military aircraft.

2. Public Law 674, 76th Congress, authorized the operation of the Washington National Airport; and Public Law 762, 81st Congress, authorized the construction and operation of Dulles International Airport.

3. The International Aviation Facilities Act was enacted to encourage the development of an international air transportation system adapted to the needs of the foreign commerce of the United States, of the postal service, and of the national defense, and for other purposes.

4. Public Law 97-248, the Airport and Airway Improvement Act of 1982, as amended by the Surface Transportation Act, authorizes expansion and improvements of the Nation's airport and airway system, for the imposition of airport and airway user charges, and for other purposes.

The declaration of policy for the Administrator, which is Section 103 of the Federal Aviation Act, summarizes effectively the objectives we wish to attain.

> Section 103. In the exercise and performance of his powers and duties under this act, the Administrator shall consider the following, among other things, as being in the public interest:
>
> (a) The regulation of air commerce in such manner as to best promote development and safety and fulfill the requirements of national defense;
>
> (b) The promotion, encouragement, and development of civil aeronautics;
>
> (c) The control of the use of the navigable air space of the United States and the regulation of both civil and military operations in such air space in the interest of the safety and efficiency of both;
>
> (d) The consolidation of research and development with respect to air navigation facilities, as well as the installation and operation thereof;

(e) The development and operation of a common system of air traffic control and navigation for both military and civil aircraft.

Basic Programs

To achieve the objectives set forth in the basic statutes summarized above, FAA conducts the following basic programs:

1. Regulates air commerce to insure safety through the development, promulgation and administration of safety and medical standards, rules and regulations which govern airmen, aircraft, aeronautical operations and related ground support activities; monitors aeronautical activities to assure adherence to regulations and to determine necessary changes in regulations; and processes enforcement actions against those who violate Federal Aviation Regulations.

2. Assures safe and efficient movement of air traffic by providing air navigation services for en route navigation, access to the airway system, guidance in the approach and landing phase of flight; controls the separation of flight in the en route and terminal areas; and furnishes pre-flight and in-flight assistance to pilots.

3. Assists in the development of public airports by making grants-in-aid to localities for airport planning and construction.

4. Operates and maintains Washington National and Dulles International Airports which serve the Washington Metropolitan Area.

5. Carries out other activities designed to facilitate and promote the development of safe and efficient air commerce.

Workload Indicators

The workload of the Federal Aviation Administration in large measure is beyond the control of the agency since it is generated by the activity of all segments of the aeronautical community. Aviation activity is expected to increase in FY 1987, as demonstrated by the following indicators.

	Fiscal Year 1987	
	Amount	% Increase/Decrease
Aviation fuel consumption (billions of gallons)	12.2	+3.4
Revenue passenger miles (billions)	369.2	+6.6
General aviation hours flown (millions)	38.1	+2.1
IFR aircraft handled (millions)	35.1	+3.4
Total operations at airports with FAA towers (millions)	61.8	+3.3
IFR operations handled by FAA towers (millions)	42.3	+4.1

1987 Estimates

The fiscal year 1987 request reflects estimates totaling $4,818 million in budget authority.

Estimated budget authority of $4,785 million for FY 1986 reflects Gramm-Rudman sequesters of $215.0 million. The increase in budget authority and contract authority from FY 1986 is $33.0 million.

The Operations request of $2,779.8 million reflects an increase of $159.4 million in budget authority over the FY 1986 post Gramm-Rudman level. The majority of the increase is to avoid repetition of furloughs and early-outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions. Other increases include leased communications, annualization of FY 1986 employment increases in the aviation inspection and security areas, and training for the expanding controller workforce.

The Operation and Maintenance, Metropolitan Washington Airports appropriation request $34.6 million to maintain the facilities and meet the payroll costs this last year before the airports are transferred to an independent authority.

An estimate of $70 million for Construction, Metropolitan Washington Airports will provide for needed rehabilitation of existing facilities at both Dulles and National Airports.

The Grants-in-Aid for Airports (Airport and Airway Trust Fund) submission provides for a $712.5 million annual grant program in FY 1987 for planning and development of the Nation's airport. It also reflects a liquidating cash appropriation of $800.0 million to ensure that sufficient trust fund cash will be available for use in liquidating obligations as they become due.

The Facilities and Equipment (Airport and Airway Trust Fund) appropriation request for fiscal year 1987 totals $825.0 million. The requested funding will continue the program to increase the safety, efficiency and capacity of the nation's airway system. Major efforts continue to upgrade the automated capability in terminal air traffic control facilities; provide improved terminal and en route radar systems, modernize and improve air route traffic control center facilities, upgrade, replace air traffic control towers and facilities, and provide new and improved air navigation facilities.

The Research, Engineering and Development (Airport and Airway Trust Fund) appropriation request of $134.5 million provides the funds necessary to support modernization of the National Airspace System. Major efforts in FY 1987 include continuing development of computers and sector suites to replace existing enroute and terminal systems with equipment capable of accounting post-1990 air traffic demands. Research into detection of weapons, explosives and flammable liquids will continue, as well as acquisition, processing and dissemination of weather information. In addition, funds will provide research support efforts to improve navigation and communications, and to support the FAA environment and aviation medicine regulatory activities.

The Aviation Insurance Revolving Fund reflects estimated revenue of $3.3 million from fees and investments in U.S. Treasury securities and estimated expenses of $149 thousand. As of September 30, 1985, unfunded contingent liability on 398 aircraft, including hull insurance and personal property liability, is estimated at just over $183.0 billion.

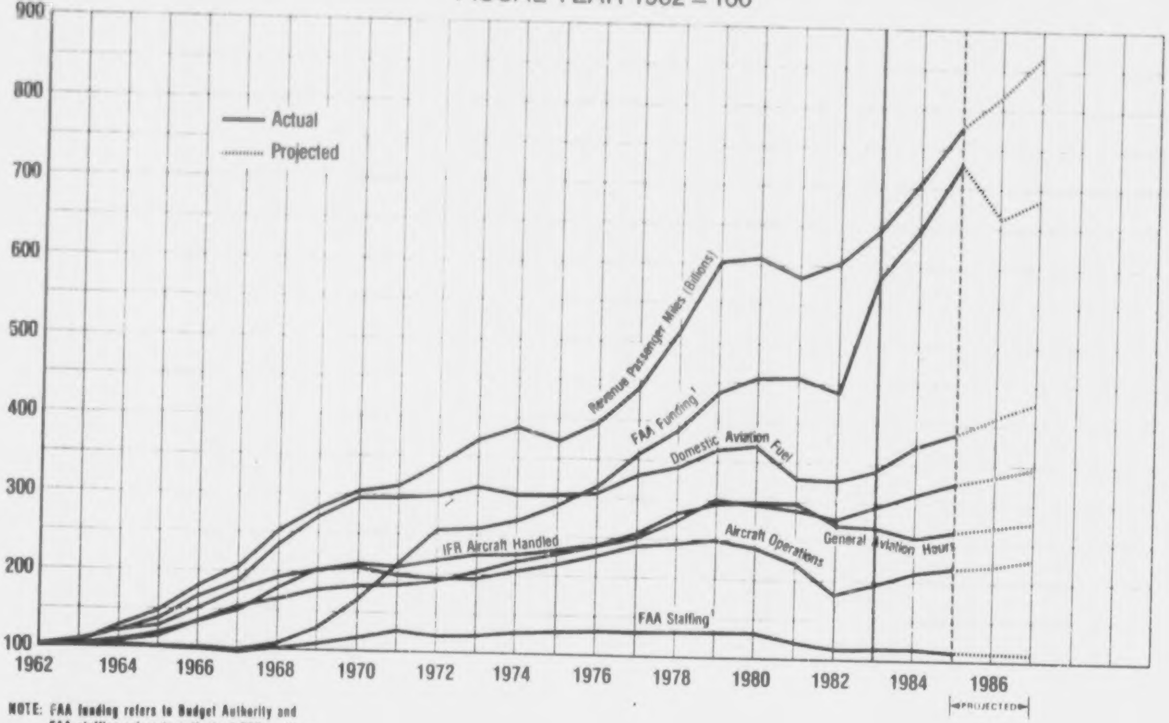
Aircraft Purchase Loan Guarantee Program. The legislative authority to guarantee lenders which is contained in Section 3 of the Act of September 7, 1957, as amended (49 U.S.C. 1324 note), has expired. FY 1987 appropriation language is being proposed to authorize the Secretary to issue notes to the Treasury to finance defaults during FY 1987, not to exceed $125 million for payment of expenses as a consequence of aircraft purchase loan guarantee defaults.

Working Capital Fund. In FY 1987, an amount of $15.9 million from the Operations account will finance services provided through the Department's Working Capital Fund. This is an increase from $14.8 million in FY 1986.

INDEX OF COMPARATIVE RATES OF GROWTH: 1962-1987

FAA AND REPRESENTATIVE AVIATION ACTIVITY MEASURES

FISCAL YEAR 1962 = 100



NOTE: FAA funding refers to Budget Authority and
FAA staffing refers to authorized FTP positions.
¹Excludes Aviation Insurance

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

REDUCTIONS PURSUANT TO PUBLIC LAW 99-177
Budget Authority
(Dollars in Thousands)

	FY 1986 Enacted	Reductions Pursuant to P.L. 99-177	FY 1986 Adjusted	FY 1987 Estimate
General Funds:				
Operations	$2,248,600	$96,690	[$2,151,910]	0
Headquarters Administration	64,400	2,769	[61,631]	0
Operations (proposed) [1]	0	0	2,213,541	$699,945
Operations and Maintenance, Metropolitan Washington Airports	34,100	1,466	32,634	34,600
Construction, Metropolitan Washington Airports	7,000	301	6,699	7,000
Aircraft Purchase Loan Guarantee	195	0	195	0
Total, General Funds	2,354,295	101,226	2,253,069	741,545
Public Enterprise Funds:				
Aviation Revolving Fund	0	0	0	0
Total, Public Enterprise Funds	0	0	0	0
Trust Funds:				
Grants-in-Aid for Airports:				
Contract Authority	1,017,000	43,731	973,269	1,017,200
Liquidation of Contract Authority	[693,000]	0	[693,000]	[800,000]
Facilities and Equipment	993,000	42,699	950,301	825,000
Research, Engineering and Development	190,000	8,170	181,830	134,500
Operations	446,000	19,178	426,822	2,099,835
Total, Trust Funds	2,646,000	113,778	2,532,222	4,076,535
TOTAL, BUDGET ESTIMATES	5,000,295	215,004	4,785,291	4,818,080

[1] Includes Headquarters Administration

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUMMARY OF BUDGET ESTIMATES
Fiscal Year 1987

(Dollars in Thousands)

	FY 1986 Adjusted [1]		FY 1987 Estimate		Difference	
	Positions	Amount	Positions	Amount	Positions	Amount
General Funds:						
Operations [2]	45,315	$2,213,541	44,529	$699,945	(786)	($1,513,596)
Operations and Maintenance, Metropolitan Washington Airports	707	32,634	707	34,600	0	1,966
Construction, Metropolitan Washington Airports	0	6,699	0	7,000	0	301
Aircraft Purchase Loan Guarantee	0	195	0	0	0	(195)
Total, General Funds	46,022	2,253,069	45,236	741,545	(786)	(1,511,524)
Public Enterprise Funds:						
Aviation Revolving Fund	2	0	2	0	0	0
Total, Public Enterprise Funds	2	0	2	0	0	0
Trust Funds:						
Grants-in-Aid for Airports:						
Contract Authority	0	973,269	0	1,017,200	0	43,931
Liquidation of Contract Authority	0	693,000	0	800,000	0	107,000
Facilities and Equipment	962	950,301	1,162	825,000	200	(125,301)
Research, Engineering and Development	845	181,830	645	134,500	(200)	(47,330)
Operations	0	426,822	0	2,099,835	0	1,673,013
Total, Trust Funds	1,807	2,532,222	1,807	4,076,535	0	1,544,313
TOTAL, BUDGET ESTIMATES	47,831	4,785,291	47,045	4,818,080	(786)	32,789

[1] Reflects reductions pursuant to Public Law 99-177.
[2] Includes Headquarters Administration.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUMMARY OF AUTHORIZED POSITIONS AND EOY EMPLOYMENT

	POSITIONS (FULL-TIME PERMANENT)			END-OF-YEAR EMPLOYMENT (IN FULL-TIME PERMANENT POSITIONS)		
	1985	1986	1987	1985	1986	1987
Direct Funded By Appropriation						
Operations [1]	45,376	45,315	44,529	43,010	42,977	42,500
Operation and Maintenance, Metropolitan Washington Airports	733	707	707	602	672	672
Facilities and Equipment	962	962	1,162	935	914	1,104
Research, Engineering and Development	845	845	645	801	803	613
Aviation Insurance Revolving Fund	2	2	2	2	2	2
Subtotal, Direct Funded	47,918	47,831	47,045	45,350	45,368	44,891
Reimbursements and Allocations						
Operations	460	460	427	332	460	427
Facilities and Equipment	53	53	53	48	53	53
Research, Engineering and Development	8	8	8	8	8	8
Subtotal, Reimbursement and Allocations	521	521	488	388	521	488
TOTAL	48,439	48,352	47,533	45,738	45,889	45,379

[1] Includes Headquarters Administration.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUMMARY OF FTE

	1985	1986	1987
Direct Funded By Appropriation			
Operations [1]	43,662	43,436	42,463
Operation and Maintenance, Metropolitan Washington Airports	671	709	692
Facilities and Equipment	1,117	1,134	964
Research, Engineering and Development	661	689	550
Aviation Insurance Revolving Fund	2	2	2
Subtotal, Direct Funded	46,113	45,970	44,671
Reimbursements and Allocations			
Operations	323	446	405
Facilities and Equipment	41	53	53
Research, Engineering and Development	6	13	13
Subtotal, Reimbursement and Allocations	370	512	471
TOTAL FTE	46,483	46,482	45,142

[1] Includes Headquarters Administration.

NOTE: These numbers exclude 300 nonceiling FTE for FY 1985, 285 nonceiling for 1986, and 287 nonceiling FTE for 1987.

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Operations

For necessary expenses of the Federal Aviation Administration, not otherwise provided for, including administrative expenses for research and development, and for establishment of air navigation facilities, and carrying out the provisions of the Airport and Airway Development Act, as amended, or other provisions of law authorizing obligation of funds for similar programs of airport and airway development or improvement; purchase of four passenger motor vehicles for replacement only [$2,694,600,000] $2,799,780,000, of which not to exceed [$446,000,000] $2,099,835,000 shall be derived from the Airport and Airway Trust Fund: Provided, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities, and private sources, for expenses incurred in the maintenance and operation of air navigation facilities: Provided further, That none of these funds shall be available for new applicants for the second career training [program.] program: Provided further, That the unexpended balances of the appropriation "Federal Aviation Administration Headquarters Administration" shall be transferred to and merged with this appropriation.

[HEADQUARTERS ADMINISTRATION]

[(Including Transfer of Funds)]

[For necessary expenses, not otherwise provided for, of providing administrative services at the headquarters location of the Federal Aviation Administration, including but not limited to accounting, budgeting, personnel, legal, public affairs, and executive direction for the Federal Aviation Administration, $64,400,000: Provided, That the Secretary of Transportation is authorized to transfer appropriated funds between this appropriation and the Federal Aviation Administration appropriation for Operations: Provided further, That this appropriation shall be neither increased nor decreased by more than 2 per centum by any such transfers: Provided further, That any such transfers shall be reported to the Committees on Appropriations.]

(Department of Transportation and Related Agencies Appropriation Act, 1986, as included in Public Law 99-190; additional authorizing legislation to be proposed for $1,823,085,000.)

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Case 180
Red underscore
Case 116

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS

Program and Financing (in thousands of dollars)

Identification code 69-1301-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Direct program:			
00.01 Operation of traffic control system	1,178,752	1,211,514	1,204,501
00.02 Installation and materiel services	194,348	191,515	187,788
00.03 Maintenance of traffic control system	756,478	739,160	761,058
00.04 Administration of aviation standards program	259,193	282,365	298,938
00.05 Development direction	8,923	9,965	9,031
00.06 Administration of airports program	26,751	25,703	26,181
00.07 Direction, staff and supporting services	69,237	79,631	72,027
00.08 Human resource management	177,757	182,962	205,343
00.09 Headquarters administration	41,674	41,562	34,913
00.91 Total direct program	2,713,113	2,764,377	2,799,780
00.01 Reimbursable program	31,762	32,000	32,000
10.00 Total obligations	2,744,875	2,796,377	2,831,780

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Program and Financing (in thousands of dollars)

Identification code 69-1301-0-1-402	1985 actual	1986 estimate	1987 estimate
Financing:			
Offsetting collections from:			
11.00 Federal funds..................	-24,771	-25,000	-25,000
13.00 Trust funds....................	-1,110,000	-446,000	-2,099,835
14.00 Non-Federal sources............	-6,991	-7,000	-7,000
21.40 Unobligated balance available, start of year................	-13,584	-5,388	...
22.40 Unobligated balance transferred net..........................	-7,016	...	...
24.40 Unobligated balance available, end of year..................	5,388	...	...
25.00 Unobligated balance lapsing....	1,513	11	...
39.00 Budget authority.............	1,589,414	2,313,000	699,945
Budget authority:			
40.00 Appropriation..................	1,581,500	2,313,000	699,945
42.00 Transferred from other accounts	7,914	...	...
43.00 Appropriation (adjusted).....	1,589,414	2,313,000	699,945
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	1,603,113	2,318,377	699,945
72.40 Obligated balance, start of year..........................	314,618	316,550	399,047
74.40 Obligated balance, end of year.	-316,550	-399,047	-468,827
77.00 Adjustments in expired accounts	11,037	...	...
90.00 Outlays......................	1,612,218	2,235,880	630,165
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1981 O - 341-525 (6/00)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Program and Financing (in thousands of dollars)

Identification code 69-1301-0-1-402	1985 actual	1986 estimate	1987 estimate
Distribution of budget authority by account:			
Operation.......................	1,527,537	2,248,600	699,945
Headquarters administration....	61,877	64,400	...
Distribution of outlays by account:			
Operations......................	1,554,171	2,172,880	620,165
Headquarters administration....	58,045	63,000	10,000
Safety regulations.............	2	...	...
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS			
Enacted/requested:			
Budget authority...............	1,589,414	2,313,000	699,945
Outlays........................	1,612,218	2,235,880	630,165
Reduction pursuant to P.L. 99-177:			
Budget authority...............	...	-99,459	...
Outlays........................	...	-89,253	-10,206
Total:			
Budget authority...............	1,589,414	2,213,541	699,945
Outlays........................	1,612,218	2,146,627	619,959

1981 O - 341-576 (6500)

PROGRAM AND PERFORMANCE

Operations

(a) Operation of air traffic control system - This activity covers the operation of a national system of air traffic management in the United States, its territories and possessions on a 24-hour basis. With the aid of radar, communications, and other facilities, traffic management personnel at 24 centers monitor and control en route flights of civil and military aircraft conducted under instrument conditions to assure safety and to expedite the flow of traffic. Terminal control facilities are operated at major civil airports to guide traffic movements at and in the vicinity of the airports. A system of flight service stations provides weather and aeronautical information to pilots, processes flight plans and provides inflight advisory and emergency services.

(b) Installation and materiel services - This activity covers procurement, contracting and materiel management programs; administrative communications services provided through the Federal Telecommunications System (FTS); supply support for the National Airspace System (NAS) and agency aircraft, except for aircraft related to the research and development program; leased space for which payment is made to General Services Administration (GSA); and other logistics support functions.

(c) Maintenance of traffic control system - This activity covers direction and engineering services related to the maintenance, improvement, and modification of facilities and equipment in the traffic control system; operational leased communications; and technical operation and maintenance of a national network of air navigation aids and traffic control facilities in the United States, and its territories and possessions.

(d) Administration of aviation standards program - This activity exists to promote flight safety of civil aviation by assuring: the airworthiness of aircraft; the competence of pilots, aviators and aviator technicians; the adequacy of flight procedures and air operations; the evaluation of inflight facility performance for compliance with prescribed standards. In addition, this activity covers the safe operation and the effective development, utilization, and maintenance of the FAA's aircraft fleet. Resources are also included under this activity for the conduct of the Federal Government's civil aviation security program, and to ensure the medical fitness of personnel in the national airspace system.

(e) Development direction - This activity covers the planning, direction, and evaluation of the engineering and development program, the direct project costs of which are financed under the Research, engineering and development appropriation.

(f) Administration of airports program - This activity includes the following work programs: (1) administration of an airport grant program for airport planning and development; (2) maintenance of the national plan of integrated airport systems; (3) development and application of airport engineering and safety standards; (4) collection, processing, and dissemination of airport data; (5) safety certification of airports serving air carriers utilizing aircraft with a seating capacity of more than 30 passengers; and (6) airport capacity enhancements.

(g) Direction, staff and supporting services - This activity covers administrative and housekeeping functions such as administrative supplies, communications, and payrolls at Oklahoma City, Atlantic City, and regional offices. Included also for these locations are activities for direction and management, public affairs, plans, international aviation, legal, accounting, budget, civil rights, communication control, data systems, and management systems. Also included are centrally managed items, such as certain data processing and Information Resources Management Plan requirements.

(h) Human resource management (HRM) - This activity directly supports the other FAA activities. The most important goal of the HRM activity is to provide highly skilled, competent, and motivated workforce necessary to accomplish FAA's objectives in improving air safety while promoting the Administration's goals in aviation-related activities. The HRM activity includes administration of FAA employee recruitment, development, compensation (including Federal Employees' Compensation Program payments and unemployment compensation), training, and labor-management relations programs. Key activities funded within the HRM are: conduct and administration of FAA's technical and management training programs; recruitment and placement of technical and administrative personnel; initiation of labor relations activities with the goal of increased employee participation in work-related decisions and increased productivity; human relations improvement activities resulting from reviews of internal surveys and external recommendations; and administration of an Airway Science Grant program intended to foster and encourage industry participation in aviation education.

(i) Headquarters administration - This activity was funded as a separate appropriation in 1986 but is being proposed as an activity within this appropriation in 1987. It provides administrative services at the Washington Headquarters location of the Federal Aviation Administration. The subactivities financed by this activity are: direction and management, communications control, public affairs, legal, aviation policy and plans, accounting, budget, civil rights, international aviation, management systems and data systems.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-16

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402		19 85 actual	19 86 estimate	19 87 estimate
Direct obligations:				
	Personnel compensation:			
11.1	Full-time permanent............	1,538,984	1,539,729	1,559,143
11.3	Other than full-time permanent....................	20,771	20,425	20,657
11.5	Other personnel compensation...	169,453	179,055	182,592
11.8	Special personal services payments....................	3,507	911	924
11.9	Total personnel compensation...	1,732,715	1,740,120	1,763,316
12.1	Personnel benefits: Civilian...	296,713	302,270	275,161
13.0	Benefits for former personnel..	2,555	2,400	2,400
21.0	Travel and transportation of persons..................	63,331	72,137	85,507
22.0	Transportation of things.......	19,169	19,112	18,530
23.1	Standard level user charges....	25,298	26,419	29,587
23.2	Rental payments to others......	28,042	13,252	7,144
23.3	Comm., utilities and misc. charges......................	92,585	120,459	124,933
24.0	Printing and reproducation.....	11,013	11,630	12,080
25.0	Other services.................	199,556	220,678	239,213
26.0	Supplies and materials.........	68,269	62,423	62,881
31.0	Equipment......................	16,795	15,300	11,342
32.0	Lands and structures...........	623	275	255
42.0	Insurance claims and indemnities.................	206	202	204
99.0	Subtotal, direct obligations, Federal Aviation Administration..............	2,556,870	2,606,677	2,632,553
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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402		19 85 actual	19 86 estimate	19 87 estimate
	Reimbursable Obligations: Personnel Compensation:			
11.1	Full-time permanent............	13,945	14,000	13,500
11.3	Other than full-time permanent.	594	600	600
11.5	Other personnel compensation...	1,307	1,300	1,300
11.8	Special personal services payments.....................	319	300	300
11.9	Total personnel compensation...	16,165	16,200	15,700
12.1	Personnel benefits: Civilian..	1,720	1,700	1,645
21.0	Travel and transportation of persons......................	1,156	1,200	1,200
22.0	Transportation of things.......	224	200	200
23.1	Standard level user charges....	7	.....	.....
23.2	Rental payments to others......	274	300	300
23.3	Comm., utilities, and misc. charges......................	1,919	2,000	2,000
24.0	Printing and reproduction......	148	100	100
25.0	Other services................	2,287	2,400	2,955
26.0	Supplies and materials.........	6,376	6,400	6,400
31.0	Equipment......................	1,486	1,500	1,500
99.0	Subtotal, reimbursable obligations, Federal Aviation Administration......	31,762	32,000	32,000
	ALLOCATION TO DEPARTMENT OF DEFENSE			
23.3	Comm., utilities and misc. charges................	156,243	157,700	167,227
99.9	Total obligations............	2,744,875	2,796,377	2,831,780

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Personnel Summary

Identification code 69-1301-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Direct:			
Total number of full-time permanent positions..........................	45,376	45,315	44,529
Total compensable work-years: Full-time equivalent employment....	43,956	43,711	42,740
Full-time equivalent of overtime and holiday hours..................	1,295	1,229	1,228
Reimbursable:			
Total number of full-time permanent positions..........................	460	460	427
Total compensable work-years: Full-time equivalent employment....	323	446	405
Full-time equivalent of overtime and holiday hours................	8	8	7

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-1301-6-1-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations...............	...	-99,459	...
Financing:			
40.00 Budget authority (appropriation)	...	-99,459	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net	...	-99,459	...
72.40 Obligated balance, start of year........................	...	...	-10,206
74.40 Obligated balance, end of year........................	...	10,206	...
90.00 Outlays........................	...	-89,253	-10,206

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Operations
($ 000)

		Dollar Resources			Personnel Resources	
		Budget Authority	Program Level	Outlays	FTP Positions	TOTAL CEILING FTE
1.	FY 1985 Actual	2,713,113	2,713,113	2,722,216	45,376	43,662
2.	FY 1986 Level	2,640,363	2,645,740	2,573,449	45,315	43,436
3.	Annualization, price level and other non-discretionary adjustments	204,315	204,232	185,379	0	115
4.	Management Savings	(29,641)	(29,641)	(26,973)	(1,070)	(1,027)
5.	Planned Program Decreases	(76,579)	(81,873)	(74,504)	(385)	(431)
6.	Recommended Program Increases	61,322	61,322	55,803	669	370
7.	FY 1987 Proposed	2,799,780	2,799,780	2,713,153	44,529	42,463

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SUMMARY OF APPROPRIATION REQUIREMENTS

Operations

(General and Trust Funds)
(Dollars in Thousands)

Activity	1986 Enacted [1]	1986 After Sequestering [1]	1986 Adjusted [1]	1987 Estimate
Operation of Traffic Control System	$1,211,514	$1,159,419	$1,158,956	1,204,501
Installation and Materiel Services	191,368	183,139	183,957	187,788
Maintenance of Traffic Control System	739,160	707,376	709,759	761,058
Administration of Aviation Standards Program	282,365	270,451	268,669	298,938
Development Direction	9,965	9,537	9,486	9,031
Administration of Airports Program	25,703	24,598	25,476	26,181
Human Resource Management	0	0	181,480	205,343
Centralized Training	97,479	93,287	0	
Direction, Staff and Supporting Services	142,423	136,302	67,785	72,027
Headquarters Administration	0	0	40,172	34,913
Total, Operations	2,699,977	2,584,109	2,645,740	2,799,780
Headquarters Administration	64,400	61,631	0 [2]	[2]
Total, Operations & Headquarters	2,764,377	2,645,740	2,645,740	2,799,780

[1] Includes no-year funding of $5,377,000 carried over from FY 1985.
[2] In FY 1987 the Headquarters Administration appropriation is merged into the Operations appropriation.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUMMARY OF PROGRAM REQUIREMENTS

Operations
(Dollars in Thousands)

Activity	1986 Adjusted		1987 Estimate		Difference	
	Positions	Amount [1]	Positions	Amount	Positions	Amount
Operation of Traffic Control System	25,130	$1,158,956	24,559	$1,204,501	(571)	$45,545
Installation and Materiel Services	1,491	183,957	1,491	187,788	0	3,831
Maintenance of Traffic Control System	10,397	709,759	10,038	761,058	(359)	51,299
Administration of Aviation Standards Program	4,886	268,669	5,024	298,938	138	30,269
Development Direction	138	9,486	138	9,031	0	(455)
Administration of Airports Program	472	25,476	472	26,181	0	705
Human Resource Management	1,295	181,480	1,295	205,343	0	23,863
Direction, Staff and Supporting Services	1,005	67,785	1,005	72,027	0	4,242
Headquarters Administration	501	40,172	507	34,913	6	(5,259)
Total	45,315	2,645,740	44,529	2,799,780	(786)	154,040

[1] Includes no-year funding of $5,377,000 carried over from FY 1985.

OPERATIONS

General Justification

This estimate provides for the continuing requirements of the Federal Aviation Administration as follows: (1) the daily operation on a 24-hour basis of a national air traffic system; (2) the maintenance of a national system of aids to air navigation; (3) the direction and engineering for the establishment of air navigation facilities; (4) aviation standards activities involving the establishment, inspection and surveillance of the civil air regulations designed to assure safety in aviation; (5) the development of standards, rules and regulations governing the physical fitness of airmen; (6) the direction and administration of an aviation medical research program; (7) the direction, evaluation and administration of the research and development program; and (8) the Federal efforts to develop a national system of airports and associated standards, including supervision of grants-in-aid for airport construction.

In FY 1987, a structure has been proposed incorporating the Headquarters Administration appropriation into the Operations appropriation.

The FY 1987 request exceeds the FY 1986 adjusted amount by $159,417,000. The budget justifications are developed from an adjusted FY 1986 level reflecting reductions pursuant to the Public Law 99-177, as detailed in the following table:

	1986	1987	Difference
Amount appropriated/requested............	$2,759,000	$2,799,780	$+40,780
Reduction pursuant to Public Law 99-177..	-118,637		+118,637
Total appropriation..........	2,640,363	2,799,780	+159,417
Authorized carryover from FY 1985........	+5,377		-5,377
Total program................	$2,645,740	$2,799,780	$154,040
Total Positions........................	45,315	44,529	-786
Total Ceiling FTE......................	43,436	42,463	-973

Funding is requested for items that are non-discretionary and/or crucial to the safe and efficient operation of the national airspace system. The majority of the increase is $118,637,000 to avoid repetition of furloughs and early-outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions. Other increases include $12,759,000 for leased communications, $5,015,000 for annualization of FY 1986 employment increases in the aviation inspection and security areas, and $4,841,000 for training for the expanding controller work force.

In FY 1986, FAA reduced its full-time equivalents (FTE's) by 558 due to A-76. In anticipation of the tight fiscal climate and funding constraints, FAA has left 208 FTE unallocated for FY 1986. The FY 1987 budget justifications also show a reduction of 931 as a result of various management initiatives including A-76.

Individual activity and subactivity justifications provide details of the budget estimates. Where available and appropriate, workload indicators have been furnished to highlight program direction. Major new traffic control air navigation facilities planned for commissioning during 1987 are:

1	Air traffic control radar beacon
2	Airport surveillance radars
15	Automated flight service stations
9	Direction finder equipments
4	Flight service data processing systems
2	Remote communications outlets
6	Distance measuring equipments
14	Approach light systems
9	Instrument landing systems
12	Microwave landing systems
2	Omnidirectional airport lighting systems
10	Runway end identification lights
7	Runway visual range
28	Visual approach slope indicators
121	

SUMMARY OF MAJOR ESTABLISHMENTS AND REPLACEMENTS

		Fiscal Year 1985			Fiscal Year 1986			Fiscal Year 1987		
	Base	Commis-sionings	Decommis-sionings	End of Year	Commis-sionings	Decommis-sionings	End of Year	Commis-sionings	Decommis-sionings	End of Year
En Route Air Traffic Control Services										
Air Route Surveillance Radar	109	0	0	109	0	0	109	0	-1	108
Air Route Traffic Control Centers	22	0	0	22	0	0	22	0	0	22
ATC Beacon Interrogator	17	0	0	17	1	0	18	0	0	18
ATC Radar Beacon	108	0	0	108	0	0	108	1	0	109
Combined Center/Terminal Facilities	2	0	0	2	0	0	2	0	0	2
Direction Finder Equipment	1	0	0	1	0	0	1	0	0	1
Remote Center Air/Ground Communications Facility	593	2	-6	589	1	0	590	0	0	590
Terminal Air Traffic Control and Services										
VFR Towers:	181	0	0	181	36	-2	215	0	0	215
FAA Operated	167	0	0	167	0	-2	165	0	0	165
FAA Contract Tower	14	0	0	14	36	0	50	0	0	50
Nonradar Approach Control Tower	19	0	0	19	0	-4	15	0	0	15
Limited Radar Approach Control Tower	16	0	0	16	0	0	16	0	0	16
Full Radar Approach Control Tower	163	0	0	163	0	0	163	0	0	163
Terminal Radar Approach Control (not collocated with tower)	13	0	0	13	0	0	13	0	-1	12
Terminal Radar Approach Control (collocated with tower)	16	0	0	16	0	0	16	0	0	16
Airport Surface Detection Equipment	12	0	0	12	0	0	12	0	0	12
Airport Surveillance Radar	197	1	0	198	1	0	199	2	0	201
ATC Radar Beacon	199	0	0	199	0	0	199	0	0	199
Automated Radar Terminal System	143	2	0	145	0	0	145	0	0	145
Detection Finder Equipment	12	0	-1	11	0	0	11	0	0	11
Precision Approach Radar	3	0	0	3	0	0	3	0	0	3
Remote Communications Outlet	15	1	0	16	0	0	16	0	0	16

		Fiscal Year 1985			Fiscal Year 1986			Fiscal Year 1987		
	Base	Commis-sionings	Decommis-sionings	End of Year	Commis-sionings	Decommis-sionings	End of Year	Commis-sionings	Decommis-sionings	End of Year
Flight Services Facilities										
Flight Service Stations										
Domestic	304	0	0	304	0	-34	270	0	-40	230
International	0	0	0	0	0	0	0	0	0	0
Automated (AFSS building occupancy)	16	0	0	16	14	0	30	15	0	45
Flight Service Data Processing System	9	0	0	9	0	0	9	4	0	13
Airport Information Desk (unmanned)	2	0	0	2	0	0	2	0	0	2
Aviation Weather Processor	0	0	0	0	0	0	0	0	0	0
Direction Finder Equipment	217	15	-2	230	16	0	246	9	0	255
International Aeronautical Telecommunications Switching Center	1	0	0	1	0	0	1	0	0	1
Remote Communications Outlet	1266	9	-8	1267	7	0	1274	2	0	1276
Navigation and Landing Aids										
Approach Lights	734	10	0	744	8	0	752	14	0	766
Distance Measuring Equipment	318	48	-2	364	14	0	378	6	-2	382
Instrument Landing System	843	7	0	850	9	0	859	9	0	868
Lead-in Light and Guidance Lights	14	0	0	14	0	0	14	0	0	14
Microwave Landing System	0	0	0	0	0	0	0	12	0	12
Omnidirectional Airport Lighting System	20	5	0	25	5	0	30	2	0	32
Runway End Identification Lights	534	16	-2	548	9	0	557	10	0	567
Runway Visual Range	425	2	0	427	3	0	430	7	0	437
Tactical Air Navigation Equipment	694	0	-1	693	0	-1	692	0	0	592
VHF Omnidirectional Range	944	9	-4	949	1	-2	948	0	0	948
Visual Approach Slope Indicator	1135	68	0	1203	67	0	1270	28	0	1298
Replacement Program										
Airport Surveillance Radar		0			0			6		
Mode S/Data Link		0			0			0		
Air Traffic Control Tower										
TPX-42		0			0			3		
VOR/VORTAC		254			16			6		
Instrument Landing System		67			44			21		

Major New Facilities Scheduled for Commissioning in 1987

En Route Air Traffic Control Services

Air Traffic Control Radar Beacon (1 Location)

Alaska
Yakutat

Terminal Air Traffic Control and Services

Airport Surveillance Radar (2 Locations)

Texas
Rio Grande Valley (Lower)

Washington
Pasco

Flight Service Facilities

Automated Flight Service Station (15 Locations)

Alabama
Anderson

California
San Diego

Florida
Miami

Kentucky
Louisville

Maine
Bangor

Michigan
Lansing

North Carolina
Anderson

North Dakota
Grand Forks

Oregon
McMinnville

South Dakota
Huron

Tennessee
Jackson

Texas
Ft. Worth
San Angelo

Virginia
Burlington

Washington
Seattle

Direction Finder Equipment (9 Locations)

Arizona
Yuma

California
Fort Jones
Ukiah

Colorado
Hayden

Kansas
Salinas

Nevada
Ely
Reno
Sod House

Wyoming
Medicine Bow

Flight Service Data Processing System (4 Locations)

Georgia
Atlanta

New York
New York

Texas
Ft. Worth

Washington
Seattle

Remote Communications Outlet (2 Locations)

Alaska
Frozen Calf
Thompson Pass Airport

Navigation and Landing Aids

Approach Light System (14 Locations)

California
Chino

Connecticut
Groton

Louisiana
Baton Rouge

Maryland
Baltimore

Missouri
St. Joseph
St. Louis

New Hampshire
Laconia

New York
Brookhaven

Oregon
Portland

Pennsylvania
Meadville
Pittsburgh

Texas
Dallas/Ft.Worth
Houston

Washington
Spokane-Felts

Distance Measuring Equipment (6 Locations)

Alaska
Emmonak

California
Bakersfield

Maine
Bar Harbor

Missouri
K.C. Muni

Nebraska
McCook

New Jersey
Newark

Instrument Landing System (9 Locations)

Florida
Jacksonville

Mississippi
Gulfport

Missouri
St. Louis

New Mexico
Double Eagle

New York
Brookhaven

Pennsylvania
Pittsburgh

Texas
Dallas/Ft. Worth
Houston

Utah
Cedar City

Microwave Landing System (12 Locations)

- Colorado
  - Montrose
- District of Columbia
  - Washington (3)
- Massachusetts
  - Boston (2)
- New Hampshire
  - Laconia
  - Manchester
- New York
  - Buffalo
  - La Guardia
  - New York JFK
- Vermont
  - Springfield

Omnidirectional Airport Lighting System (2 Locations)

- Alaska
  - Northway
- New York
  - Dunkirk

Runway End Identification Light (10 Locations)

- Alabama
  - Ozark
- Colorado
  - Denver
- Florida
  - Jacksonville
- Iowa
  - Mt. Pleasant
- Kentucky
  - Murray
- Missouri
  - Grain Valley
- North Carolina
  - Fayetteville
- Puerto Rico
  - Arecibo Airfield
  - Mayaguez
  - Ponce

Runway Visual Range (7 Locations)

- California
  - Merced
- Maine
  - Portland
- Texas
  - Dallas/Ft. Worth
  - Houston (2)
- West Virginia
  - Morgantown
  - Parkersburg

Visual Approach Slope Indicator (28 Locations)

Alabama
- Birmingham
- Huntsville

Alaska
- Buckland (2)
- Koyuk (2)
- Tanana

Arkansas
- Little Rock

Colorado
- Denver

Idaho
- Burley

Illinois
- Palwaukee

Indiana
- Muncie

Kentucky
- Louisville

Missouri
- Cape Girardeau
- Grand Valley (2)
- Kaiser
- St. Charles (2)

Montana
- Billings

Nebraska
- Ogallala

New Jersey
- Burlington
- Linden

Oregon
- Scappoose

Pennsylvania
- Erie
- Washington

Washington
- Moses Lake (2)

OPERATIONS

Operation of Traffic Control System

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIR TRAFFIC
($ 000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	Total Ceiling FTE
1. FY 1985 Actual	$1,178,752	$1,178,752	N/A	25,004	24,451
2. FY 1986 Level	1,158,956	1,158,956	N/A	25,130	24,529
3. Annualization, price level and other non-discretionary adjustments	+70,144	+70,144	N/A	---	---
4. Management Savings	-14,894	-14,894	N/A	-740	-493
5. Planned Program Decreases	-18,972	-18,972	N/A	-356	-206
6. Recommended Program Increases	+9,267	+9,267	N/A	+525	+295
7. FY 1987 Proposed	$1,204,501	$1,204,501	N/A	24,559	24,125

OPERATIONS

Operation of Traffic Control System

General Justification

This activity covers the operation of a national system of air traffic control and flight service facilities to assure safety, reliability, and regularity of flight operations. In FY 1987, this system will control a daily average of 169,315 landings and takeoffs and 115,900 instrument rule flights, and provide 154,800 flight services. In addition, the system is responsible for the safety of a daily average of 1,133,600 revenue passengers in the United States. A table reflecting current trends in air traffic activity and a forecast through FY 1987 is included at the end of this general justification.

This FY 1987 estimate provides for staffing and funding requirements for the continuation of functions under the Air Traffic Services activity as follows:

($ in 000)

	FY 1986	FY 1987	Increase/ Decrease
Air Traffic Control Centers	$456,398	$481,981	$+25,583
Air Traffic Control Towers	458,609	482,510	+23,901
Flight Service Stations	172,632	171,532	-1,100
Planning, Direction, and Evaluation	71,317	69,478	- 1,839
Total	$1,158,956	$1,205,501	$+46,545
FTP Positions	25,130	24,559	-571
FTE's	24,529	24,125	-404

Air Traffic Control Centers: Staffing in the Center subactivity is increased by 325 positions and 187 FTE's. The increase in positions is due to a new staffing standard applied to FY 1987 projected workload and a transfer of 25 positions from the Planning, Direction, and Evaluation subactivity. This increase is offset by a decrease of 180 positions and 91 FTE's for overhead staffing.

A net increase in funding of $25,583,000 is made in this subactivity for FY 1987.

Air Traffic Control Towers. Staffing in the tower subactivity is increased by 200 positions and 108 FTE's. The increase is a result of a revision to the staffing standard that makes allowances for facilities with a high secondary instrument operations count, limited radar facilities with Airport Radar Surveillance Areas (ARSA), and projected workload. This increase is offset by a decrease of 145 positions and 85 FTE's for overhead staffing. A net increase in funding of $23,901,000 is required in this subactivity.

OPERATIONS

Operation of Traffic Control System

Flight Service Stations. Current plans call for consolidation of approximately 300 existing FSS's into 61 automated facilities. All automated flight service stations are expected to be commissioned by FY 1992. A net decrease of 740 positions, 369 FTE's, and $1,100,000 is made in this subactivity for FY 1987.

Planning, Direction, and Evaluation. This subactivity includes regional and Washington Headquarters personnel.

Staffing in this subactivity reflects a decrease of 31 positions and 31 FTE's. This is the result of the transfer of 25 positions to the Center subactivity and 6 positions to the Headquarters Administration subactivity.

A net decrease of $2,839,000 and 155 FTE's is requested in this subactivity for FY 1987.

The FY 1987 end-of-year employment goal for the air traffic controller work force is about 15,000, an increase over the FY 1986 goal of 14,480.

Workload and Performance Indicators (Estimated)

		(Volume of Activity (In Millions)				Percent Change		
		1984	1985	1986	1987	1984 1985	1985 1986	1986 1987
Centers	IFR Aircraft Handled	31.6	32.7	34.0	35.1	+3.5	+4.0	+3.2
Towers	Aircraft Operations	56.8	57.9	59.8	61.8	+1.9	+3.3	+3.3
	Instrument Operations	37.3	38.7	40.6	42.3	+3.8	+4.9	+4.2
Stations	Flight Services	54.7	52.9	54.6	56.5	-3.3	+3.2	+3.5

Fiscal Year 1987 funding requirements to provide air traffic control services are summarized as follows:

OPERATIONS

Operation of Traffic Control System

Air Route Traffic Control Centers

The en route traffic control subactivity has as its major elements air route traffic control centers, long-range radars, NAS Stage A computers, and direct controller-pilot voice communications. The objective of the en route traffic control system is to provide for the safe, orderly and expeditious movement of instrument flight rule (IFR) air traffic along the airways and in positive control areas.

The number of IFR aircraft handled by Air Route Traffic Control Centers has been forecasted to increase from 34,000,000 in FY 1986 to 35,100,000 in FY 1987, a projected increase of 3.2 percent.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$448,616	$ 7,782	$456,398	9,628	9,213
B.	Annualization, price level and other non-discretionary adjustments	+28,526	---	+28,526	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	-8,588	---	-8,588	-180	-90
E.	Recommended Program Increases	+4,812	+833	+5,645	+325	+187
F.	FY 1987 Proposed	$473,366	$ 8,615	$481,981	9,773	9,310

The estimate for FY 1987 provides a net increase of $25,583,000, 145 positions, and 97 FTE's over FY 1986. Changes in requirements for FY 1987 are explained below.

B. Annualization, price level and other non-discretionary adjustments $+28,526,000

Increases totalling $28,526,000 include the following:

1. $22,390,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

OPERATIONS

Operation of Traffic Control System

2. $2,677,000 increase is an annualized amount for 1,585 within-grade increases and 980 grade-to-grade promotions effective for part-year in FY 1986;

3. $2,680,000 is for 1,482 within-grade increases and 1,033 grade-to-grade promotions to become effective in FY 1987; and,

4. $779,000 is for 967 merit pay increases effective in FY 1987.

D. Planned Program Decreases -180 positions, $-8,588,000

Program decreases totalling $8,588,000 include the following:

1. There is a lower requirement of $5,438,000 and 180,125 hours for overtime. We estimate that overtime in the Center option for FY 1987 will total $13,368,000 and 405,000 hours. This represents a reduction from FY 1985 where 594,000 hours and $19,004,800 were utilized for Air Traffic Center overtime; and

2. A decrease of 180 positions, 90 FTE's and $3,150,000 for overhead staffing.

E. Recommended Program Increases +325 positions, $+5,645,000

The increase of $5,645,000 will provide for the following:

1. $4,812,000, 325 positions and 187 FTE's is requested. The increase is due to a new staffing standard based on workload and the time a controller is available. Of the 325 positions requested, 25 positions were transferred from the Planning, Direction, and Evaluation subactivity for the Traffic Flow Management functions; and,

2. $333,000 is needed for additional travel and permanent change-of-station costs.

OPERATIONS

Operation of Traffic Control System

Airport Traffic Control Towers

The basic facility of the terminal area subactivity is the airport traffic control tower. Other facilities in many terminal areas include airport surveillance radar, automated radar terminal systems computers, approach lighting, instrument landing systems, and various visual aids and radio navigation facilities. The objective of the terminal air traffic control system is to provide for the safe, orderly and expeditious movement of air traffic in the vicinity of the airport.

The number of terminal instrument operations has been forecasted to increase from 40,600,000 in FY 1986 to 42,300,000 in FY 1987, a projected increase of 4.2 percent. Aircraft operations are expected to increase from 59,800,000 to 61,800,000, 3.3 percent.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$448,473	$10,136	$458,609	9,904	9,848
B.	Annualization, price level and other non-discretionary adjustments	+29,429	---	+29,429	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	-8,695	---	-8,695	-145	-85
E.	Recommended Program Increases	+2,245	+922	+3,167	+200	+108
F.	FY 1987 Proposed	$471,452	$11,058	$482,510	9,959	9,871

The estimate for FY 1987 provides a net increase of $23,901,000, 55 positions, and 23 FTE's over FY 1986. Changes in requirements for FY 1987 are explained below.

B. Annualization, price level and other non-discretionary adjustments $+29,429,000

Increases totalling $29,429,000 include the following:

1. $22,075,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

OPERATIONS

Operation of Traffic Control System

2. $3,112,000 is annualized amount for 1,165 within-grade increases and 1,901 grade-to-grade promotions effective for part-year in FY 1986;

3. $3,456,000 is for 1,453 within-grade increases and 1,756 grade-to-grade promotions to become effective in FY 1987; and,

4. $786,000 is for 1,078 merit pay increases effective in FY 1987.

D. Planned Program Decreases -145 positions, $-8,695,000

Program decreases of $8,695,000 include the following:

There is a lower requirement of $5,720,000 and 216,000 hours for overtime. We estimate that overtime in the tower option for FY 1987 will total $2,118,000 and 77,870 hours. This represents a reduction from FY 1985 when 263,100 hours and $7,724,700 were utilized for air traffic tower overtime; and,

2. A decrease of 145 positions, 85 FTE's and $2,975,000 for overhead staffing.

E. Recommended Program Increases +200 positions, $+3,167,000

The requested increase of $3,167,000 will provide for the following:

1. $2,245,000, 200 positions and 108 FTE's is requested. The increase is due to a revised staffing standard that makes allowances for facilities with a high secondary instrument operations air traffic count, limited radar facilities and to accommodate forecasted traffic increases; and,

2. $922,000 for travel and permanent change-of-station moves.

OPERATIONS

Operation of Traffic Control System

Flight Service Stations

The flight service station portion of the air traffic control system consists of an extensive network of landline teletypewriter circuits, point-to-point radio circuits, air/ground radio channels and related equipment for the exchange of air traffic control information, and for flight assistance services.

The primary functions of the flight service station system are: (1) the provision of flight assistance (pre-flight, in-flight, and emergency) and (2) the collection and distribution of meteorological and aeronautical information. Flight service stations provide pilot weather briefings and flight planning services to all categories of civil aviation. All VFR flight plans are handled by the flight service station system. IFR flight plans are received by flight service stations and transmitted to air route traffic control centers. Flight service stations also operate the military flight service system, sending flight notification messages to the destination base operations office for all itinerant military flights. In an average year, flight service stations also take approximately half of the nation's first order civil weather observations and operate the aviation weather telecommunications system.

The number of flight services provided by the air traffic flight service stations has been forecasted to increase from 54,600,000 in FY 1986 to 56,500,000 in FY 1987, a projected increase of 3.5 percent.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$163,894	$ 8,738	$172,632	4,595	4,492
B.	Annualization, price level and other non-discretionary adjustments	+11,815	---	+11,815	---	---
C.	Management Savings	-12,915	---	-12,915	-740	-369
D.	Planned Program Decreases	---	---	---	---	---
E.	Recommended Program Increases	---	---	---	---	---
F.	FY 1987 Proposed	$162,794	$ 8,738	$171,532	3,855	4,123

OPERATIONS

Operation of Traffic Control System

The estimate for FY 1987 provides a net decrease of $1,100,000, 740 positions, and 369 FTE's below FY 1986. Changes in requirements for FY 1987 are explained below.

B. Annualization, price level and other non-discretionary adjustments $+11,815,000

Increases totalling $11,815,000 include the following:

1. $8,093,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $1,604,000 for the annualized cost of 1,111 within-grades and 609 grade-to-grade promotions effective for part-year in FY 1986;

3. $1,704,000, for 1,101 within-grade pay increases and 690 new grade-to-grade promotions effective in FY 1987; and,

4. $414,000 for 361 merit pay increases effective in FY 1987.

C. Management Savings -740 positions, $-12,915,000

Management initiatives are expected to generate the followings savings:

A reduction of 740 positions, 369 FTE's and $12,915,000 is made due to the consolidation of existing FSS's into automated FSS's.

OPERATIONS

Operation of Traffic Control System

Planning, Direction, and Evaluation

This subactivity provides top-level planning and direction, definition of program objectives, formulation of standards, and evaluation of the effectiveness of air traffic operations. Included are personnel at Washington Headquarters, the National Communications Center (NATCOM), the National Flight Data Center (NFDC), and the Centralized Programming Group (CPG), as well as personnel in the regional headquarters offices who supervise and evaluate the day-to-day operation of field facilities, develop and approve operational procedures, and develop plans and programs for the efficient use of resources.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ 49,582	$21,735	$ 71,317	1,003	976
B.	Annualization, price level and other non-discretionary adjustments	+374	---	+374	---	---
C.	Management Savings	-1,979	---	-1,979	---	-124
D.	Planned Program Decreases	-1,734	---	-1,734	31	-31
E.	Recommended Program Increases	---	+500	+500	---	---
F.	FY 1987 Proposed	$ 46,243	+22,235	$ 68,478	972	821

The estimate for FY 1987 provides a net decrease of $2,839,000, 31 positions, and 155 FTE's below FY 1986. Changes in requirements for FY 1987 are explained below.

B. Annualization, price level and other non-discretionary adjustments +374,000

The increase of $374,000 will fund the following:

1. $155,000 in PC&B for annualization of 311 within-grade increases in FY 1986;
2. $148,000 in PC&B for 279 within-grade increases to become effective in FY 1987; and,
3. $71,000 in PC&B for 91 merit pay increases effective in FY 1987.

OPERATIONS

Operation of Traffic Control System

C.	Management Savings	$-1,979,000

Management initiatives are expected to generate the following savings:

A reduction of 124 FTE's and $1,979,000 is anticipated as a result of management improvements.

D.	Planned Program Decreases	-31 positions, $-1,734,000

The reduction of $1,734,000 consists of the following:

1. $1,261,000 in PC&B and 25 positions transferred to the Center subactivity for the Central Flow Control Traffic Unit Management functions; and,

2. $473,000 in PC&B and 6 positions transferred to Headquarters Administration activity. These 6 positions are the air traffic Associate Administrator and his immediate staff which are more properly funded under Headquarters Administration (HA).

E.	Recommended Program Increases	$+500,000

The requested increase is for the following:

$500,000 for travel to obtain field expertise in the development and planning of present and future operational needs and greater involvement in Critical Design Review and Incremental Testing Demonstrations related to the development of the Advanced Automation System.

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Operations-Installation and Materiel Service
($000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Pos.	Total Ceiling FTE
1. FY 1985 Actual	$194,348	$194,348	N/A	1,569	1,507
2. FY 1986 Level	183,957	183,957	N/A	1,491	1,416
3. Annualization, price level, and other non-discretionary adjustments	+16,246	+16,246	N/A	-	-
4. Management Savings	-4,799	-4,799	N/A	-	-133
5. Planned Program Decreases	-7,616	-7,616	N/A	-	-
6. Recommended Program Increases	-	-	-	-	-
7. FY 1987 Proposed	$187,788	$187,788	N/A	1,491	1,283

Workload and Performance Indicators

The Installation and Materiel Activity functions in direct support of the other activities of the Agency. It includes supply support of air navigational facilities and other administrative support provided to the regions, centers and Washington headquarters.

The FY 1987 estimate provides for staffing and funding requirements for the continuation of functions under the Installation and Materiel Services Activity as summarized below.

Subactivity	FY 1986	FY 1987	Inc/Dec
Materiel and Procurement	$86,132	$90,322	$+4,190
Administrative Telecommunications	16,137	20,786	+4,649
Administrative and Plant Services	78,211	73,444	-4,767
Planning, Direction and Evaluation	3,477	3,236	-241
Total	$183,957	$187,788	$+3,831

OPERATIONS

Installation and Materiel Services

General Justification

This activity includes: supply support for the National Airspace System (NAS) and agency aircraft (except aircraft in the research and development program); agencywide procurement; contracting and management of property; transportation services; administrative services; and administrative telecommunications.

The FY 1987 estimate of $187,788,000 finances the continuing support of operating facilities and equipment including resources to support new facilities to be added to the air navigation and air traffic control system. New facilities and operational improvements require additional resources to assure scheduled installation of equipment, essential procurement of supplies and materials, and leasing of administrative telecommunications circuits.

This FY 1987 estimate provides for staffing and funding requirements for the continuation of functions under the Installation and Materiel Services Activity as summarized below:

	PC&B	Other Objects	Total	FTP Pos.	Total Ceiling FTE
A. FY 1986 Level	$48,280	$135,677	$183,957	1,491	1,416
B. Annualization, price, level and other non-discretionary adjustments	+757	+15,489	+16,246	-	-
C. Management Savings	-4,799	-	-4,799	-	-133
D. Planned Program Decreases	-	-7,616	-7,616	-	-
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	$44,238	$143,550	$187,788	1,491	1,283

The estimate for FY 1987 provides a net increase of $3,831,000 over FY 1986.

OPERATIONS

Installation and Materiel Services

Materiel and Procurement

This subactivity includes resources for the procurement and management of materiel; supply support for air navigation and air traffic control facilities; supply support for agency aircraft (except aircraft in the research and development program); acquisition, control and management of real property; maintenance of FAA Academy training equipment; and other services.

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$36,694	$49,438	$86,132	1,136	1,081
B. Annualization, price level and other non-discretionary adjustments	+579	+7,258	+7,837	-	-
C. Management Savings	-3,647	-	-3,647	-	-103
D. Planned Program Decreases	-	-	-	-	-
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	$33,626	$56,696	$90,322	1,136	978

The estimate for FY 1987 provides a net increase of $4,190,000 over FY 1986. Changes in requirements are explained below.

B. Annualization, price level and other non-discretionary increases $+7,837,000

The net increase of $7,837,000 includes:

1. $4.652,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.

2. An increase of $2,606,000 over the FY 1986 base of $44,591,000 to finance supply support and commercial repair costs for air traffic control and air navigation facilities presently in the National Airspace System.

   a. A $2,243,000 increase over the FY 1986 base of $33,348,000 is required for supply support costs. Included is $1,951,000 to maintain support at the continuing level and considers given factors such as inventory value trends, demand trends, required stock levels, market availability and Economic Order Quantity (EOQ).

Operations
Installation and Material Services

The increase also includes $[illegible] required for supplies and material to provide full-year funding in support of new air traffic control and air navigation facilities that will be operational for part-year in FY 1986.

b. A $[illegible] increase over the FY 1986 base of $[illegible] is required for commercial repair costs. As the National Airspace System [illegible] [illegible], more complex and sophisticated equipment replaces the outmoded equipment currently in the FAA inventory. Current depot shop capacity and configuration necessitate increased commercial repair work.

3. $[illegible] for annualization to provide full-year funding of the within-grade increases that were effective for only part of FY 1986.

4. $[illegible] for the within-grade increases to become effective in FY 1987.

5. $[illegible] for 1/1 merit pay increases to become effective in FY 1987.

2. Management Savings [illegible]

A reduction of [illegible] FTEs and $[illegible] is anticipated for prospective A-76 contracts.

OPERATIONS

Installation and Material Services

Administrative Telecommunications

This subactivity provides funding for administrative telecommunications of: (1) agencywide intercity Federal Telecommunications System (FTS) voice provided through the General Services Administration (GSA); (2) the agencywide Administrative Data Communications Network (ADCN) which supports national systems such as the Consolidated Personnel Management Information System, the National Flight Data Center, the Personal Property Inventory Management System, the Uniform Accounting System, the Flight Standards District Office Modernization and Enforcement Information System, Computer Based Instruction, Uniform Air Traffic Activity Information System, Air Traffic Operational Systems Errors Deviation Information System, Maintenance Management System, Aviation Safety Analysis System, Air Traffic Controller Health Information System, Logistics Inventory System, Uniform Payroll System and Airport Improvement Program; (3) agencywide facsimile network between all regions, centers and Washington; and (4) agencywide local telephone service, switchboard operations and commercial long distance tolls.

	PC&B	Other Objects	Total	FTP Pos.	Total Ceiling FTE
A. FY 1986 Level	-	$18,137	$18,137	-	-
B. Annualization, price level, and other non-discretionary adjustments	-	+4,649	+4,649	-	-
C. Management Savings	-	-	-	-	-
D. Planned Program Decreases	-	-	-	-	-
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	-	$22,786	$22,786	-	-

The estimate for FY 1987 provides a net increase of $4,649,217 over FY 1986. Changes in requirements are explained below.

B. Annualization, price level and non-discretionary increases $+4,649,209

The increase of $4,649,209 includes:

1. $2,976,722 to avoid further deferment of services that are taking place in FY 1986 as a result of Gramm-Rudman reductions.

2. $1,712,730 over the FY 1986 base of $2,825,988 for the Administrative Data Communications Network (ADCN). The guidance established in the Information Resources Management Plan (IRMP) requires communications support capable of connecting 75% of all FAA data terminal users at one time.

OPERATIONS

Installation and Materiel Services

3. $581,000 for FAA's pro rata share of the total DOT system costs for the Federal Telecommunications System (FTS).

4. $100,000 to finance rate increases at regions, centers and Washington headquarters for local telephone service, switchboard operations and commercial long distance tolls.

OPERATIONS

Installation and Materiel Services

Administrative and Plant Services

This subactivity includes resources for the following: management of administrative personal property; headquarters motor fleet; mail and messenger services; printing and reproduction services; alteration, maintenance and repair of buildings, grounds and roads; fire and security protection; and custodial and operating services for buildings which are managed directly by FAA rather than through GSA. Also included is the funding for GSA leased and commercially leased space.

	PC&B	Other Objects	Total	FTP Pos.	Total Ceiling FTE
A. FY 1986 Level	$8,637	$69,574	$78,211	277	257
B. Annualization, price level and other non-discretionary adjustments	+126	+3,582	+3,708	-	-
C. Management Savings	-859	-	-859	-	-23
D. Planned Program Decreases	-	-7,616	-7,616	-	-
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	$7,904	$65,540	$73,444	277	234

The estimate for FY 1987 provides a net decrease of $-4,767,000 over FY 1986. Changes in requirements are explained below.

B. Annualization, price level and other non-discretionary increases $+3,708,000

The requested net increase of $3,708,000 includes:

1. An increase of $3,231,000 for payments to GSA for Commercially Based Rent (CBR) over the FY 1986 base of $26,419,000. This is required primarily to fund rate increases at specific locations and is based on data provided by GSA.

2. An increase of $351,000 over the FY 1986 base of $10,531,000 allows for increases in both printing and reproduction cost and the volume of contract printing.

3. $56,000 for annualization to provide full-year funding of 125 within-grade increases that were effective for only part of FY 1986.

4. $63,000 for 133 within-grade increases to become effective in FY 1987.

OPERATIONS

Installation and Materiel Service

5. $7,000 for 8 merit pay increases to become effective in FY 1987.

C. Management Savings $-859,000

A reduction of 27 FTEs and $859,000 is anticipated for prospective A-76 contracts.

D. Planned Program Decreases $-7,616,000

A decrease of $7,616,02 in rent and utilities at regions/centers and Washington headquarters is due to the transfer of funding responsibility to Facilities and Equipment (F&E).

OPERATIONS

Installation and Materiel Services

Planning, Direction and Evaluation

This subactivity includes the personnel who plan, direct and define program objectives, formulate standards and evaluate the effectiveness of the total logistics operation at the Regional Headquarters, the Mike Monroney Aeronautical Center, the FAA Technical Center and the Washington Office.

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$2,949	$528	$3,477	78	78
B. Annualization, price level and other non-discretionary adjustments	+52	-	+52	-	-
C. Management Savings	-293	-	-293	-	-7
D. Planned Program Decreases	-	-	-	-	-
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	$2,708	$528	$3,236	78	71

The estimate for FY 1987 provides a net decrease of $241,000 over FY 1986. Changes in requirements are explained below.

B. Annualization, price level and other non-discretionary adjustments $+52,000

The net increase of $52,000 includes:

1. $9,000 for annualization to provide full-year funding of 18 within-grade increases that were effective for only part of FY 1986.
2. $9,000 for 18 within-grade increases to become effective in FY 1987.
3. $34,000 for 20 merit pay increases to become effective in FY 1987.

C. Management Savings $-293,000

A reduction of $293,000 for seven FTEs is a result of continuing workload review process.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SYSTEMS MAINTENANCE
($ 000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	Total Ceiling FTE
1. FY 1985 Actual	$756,478	$756,478	N/A	10,666	9,951
2. FY 1986 Level	709,759	709,759	N/A	10,397	9,407
3. Annualization, price level and other non-discretionary adjustments	+66,686	+66,686	N/A	---	---
4. Management Savings	-6,112	-6,112	N/A	-330	-163
5. Planned Program Decreases	-32,954	-32,954	N/A	-29	-15
6. Recommended Program Increases	+23,679	+23,679	N/A	---	---
7. FY 1987 Proposed	$761,058	$761,058	N/A	10,038	9,229

OPERATIONS

Maintenance of Traffic Control System

General Justification

This activity's major objectives are (1) to provide an effective and efficient maintenance program for the air traffic control and air navigation systems facilities to assure that it is responsive to operational needs and meets requirements of aviation safety and national defense; and (2) to provide adequate direction and engineering services for the maintenance, modification, and improvement of the air traffic control and air navigation facilities and equipment.

The fiscal year 1987 estimate provides for staffing and funding requirements of the Maintenance of Air Traffic Control System program as summarized below:

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$401,511	$308,248	$709,759	10,397	9,407
B.	Annualization, price level and other non-discretionary adjustments	+31,620	+35,066	+66,686	---	---
C.	Management Savings	-6,112	---	-6,112	330	-163
D.	Planned Program Decreases	-679	-32,275	-32,954	-29	-15
E.	Recommended Program Increases	+156	+23,523	+23,679	---	---
F.	FY 1987 Proposed	$426,496	$334,562	$761,058	10,038	9,229

The estimate for 1987 provides for the continuation of direct maintenance and leased communication services, including direction and engineering, related to the improvement of technical operation and maintenance of facilities and equipments essential to the safety and reliability of the National Airspace System (NAS).

The additional funds requested for this activity are required to provide for (1) the increased costs of maintaining the existing facility systems in operation at the end of fiscal year 1986, and (2) the maintenance and leased communications lines for 121 new facilities and equipments previously approved in prior year Facilities and Equipment appropriations and under construction or scheduled for commissioning and operation in FY 1987, and (3) other supporting services.

OPERATIONS

Maintenance of Traffic Control System

Field Maintenance Workload and Performance Indicators

Fiscal Year	Number of Facilities	Cong. Authority Field Maintenance Positions	Equipment and Service Availability
FY 1987	20,005 *	8,947 *	99.78% *
FY 1986	19,157 *	9,277 *	99.78% *
FY 1985	19,024	9,521	99.78%
FY 1984	17,015	9,630	99.76%

* projected

Field Maintenance

In FY 1987, the request reflects a net increase of $28,683,000 from FY 1986. Our current plan calls for a net decrease of 1,159 positions through FY 1991. This is composed of productivity savings of 2,136 positions which include 223 for consolidation and standardization of facilities, equipments, and organizations offset by a workload increase of 977 positions attributable to 1,734 major new facilities commissionings over the FY 1986 level. Productivity savings are being realized because of our capital investment programs, such as solid-state replacement and remote maintenance monitoring, thus enabling us to project significant savings.

Engineering

In FY 1987, the request reflects a net increase of $715,000 over FY 1986. This adjustment supports the field maintenance program's technical inspections of navigational aids, thereby the quality assurance of the maintenance program.

Planning, Direction, and Evaluation

In FY 1987, the request is a net increase of $10,974,000 over FY 1986. Program increase of $10,000,000 will provide the initial funding for this effort which will focus on a pilot test of contractor maintenance at low activity airports having visual flight rules (VFR) towers, at non-towered and at selected Flight Service Stations located within three specified regions.

OPERATIONS:

Maintenance of Traffic Control System

Leased Telecommunications

The current five-year projection reflects large increases resulting from the installation of new equipment, equipment replacement, and facility consolidations. However, these increases provide for more up-to-date, efficient systems and/or effect major reductions in maintenance costs. This is especially true for the following programs/systems: Next Generation Weather Radar system; Voice Response System; Remote Maintenance Monitoring System; Flight Service Station (FSS) automation and consolidation programs; Automated Weather Observation System; and the teletype replacement program. In addition, savings and cost avoidance of approximately $94,317,000 through FY 1991 will be accomplished through the Radio Communications Link Network; Data Multiplexing Network; National Airspace Data Interchange Network IA and II; and purchase of leased equipment (i.e., Integrated Communications Switching Systems and Paradyne Modems).

In FY 1987, the request includes a net increase of $10,927,000. This adjustment will enable us to meet the increased demands of the National Airspace System (NAS) so that workload savings will be achieved as anticipated. We will continue to provide telecommunications services for the FSS facility consolidation plan. Also, telephone lines will be rearranged; direction finding equipment, remote communications outlets, and navaid monitoring equipment will be remoted; and new automated FSS facilities will be provided with the necessary leased telecommunications capability.

OPERATIONS

Maintenance of Traffic Control System

Field Maintenance

This subactivity contains resources for the maintenance and repair of facilities and equipment comprising the National Airspace System (NAS). These include air traffic control, navigation and landing aids, supporting plant facilities, and personnel support for over 20,000 facilities.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$344,471	$116,732	$461,203	9,277	8,327
B.	Annualization, price level and other non-discretionary adjustments	+30,526	+9,752	+40,278	---	---
C.	Management Savings	-6,112	---	-6,112	-330	-163
D.	Planned Program Decreases	-645	-5,602	-6,247	-29	-15
E.	Recommended Program Increases	---	+764	+764	---	---
F.	FY 1987 Proposed	$368,240	$121,646	$489,886	8,918	8,149

The estimate for FY 1987 provides for a net increase of $28,683,000, a reduction of 359 positions, and 178 FTE's below FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments $+40,278,000

The net increase of $40,278,000 includes:

1. $27,783,000 to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $1,981,000 for annualization to provide full-year funding of 2,455 within-grade increases and 382 grade-to-grade promotions that were effective only part of FY 1986;

OPERATIONS

Maintenance of Traffic Control System

3. $2,636,000 for part-year funding of 3,505 new within-in grade increases and 430 grade-to-grade promotions for employees who will become eligible during FY 1987;

4. $714,000 for 730 merit pay increases which become effective in FY 1987;

5. $1,905,000 for annualization of operating costs of new facilities, equipment, and services approved in FY 1986, but funded only a portion of the fiscal year; and,

6. $5,259,000 to provide for price increases required (e.g., rents, travel, transportation, utilities, and supplies) to continue the maintenance and the support of existing facilities, equipment, and services in operation at the end of FY 1986.

C. Management Savings -330 positions, $-6,112,000

A reduction of 330 positions, 163 FTE's, and $6,112,000 are being absorbed through management initiatives.

D. Planned Program Decreases -29 positions, $-6,247,000

Program decreases of 29 positions and $6,247,000 include the following:

1. A decrease of $5,602,000 is associated with equipment purchases, a reduction in PCS moves and other decreases; and,

OPERATIONS

Maintenance of Traffic Control System

2. In addition, a decrease of $645,000 in PC&B is associated with a reduction of 29 positions and 15 FTE's. As a result of our continuing workload review process which involves our engineering staffing standards, we have concluded that fewer authorized positions are required in this activity.

E. Recommended Program Increases $+764,000

Program increases of $764,000 include the following:

$764,000 is needed to cover increased operating costs such as fuel, electricity, heat, and leases for land and buildings. In FY 1987, the FAA has scheduled 121 new facilities and equipment to be commissioned requiring part-year funds.

OPERATIONS

Maintenance of Traffic Control System

New facilities and services are essential to the following systems:

En Route System

Facilities in this system control an aircraft's en route flight between terminal areas of the National Airspace System or across international boundaries providing separation services, traffic advisories, and weather advisories. In FY 1987, one new air traffic control beacon is planned for commissioning.

Terminal Control and Services

Facilities in this system ensure the safe and efficient flow of aircraft operating in the immediate vicinity of the airport and provide for approach control services to ensure separation of arriving, departing, and en route aircraft. In FY 1987, 2 airport surveillance radars are planned for commissioning in this system.

Flight Service Facilities

This system includes facilities for flight assistance services, en route air/ground communications, dissemination of meterological and aeronautical information, and monitoring of air navigation aids. In 1987, 30 new facilities are planned for commissioning in this system: 9 direction finders, 15 automated flight service stations, 4 flight service data processing systems, and 2 remote communications outlets.

Navigation and Landing Aids

Navigation facilities in this system define the location of principal airways and enable pilots to determine positive distance and direction information from ground stations. The landing aids provide pilots with direction, distance, vertical guidance, and alignment during approach and landing in Instrument Flight Rules conditions. In addition, there are a variety of lighting aids which enable pilots to have visual contact with the active runway through visual aids to align the aircraft to the approach path and runway. In 1987, 88 such facilities are scheduled for commissioning.

OPERATIONS

Maintenance of Traffic Control System

Engineering

Personnel financed under this subactivity are located in Washington, the Regional Headquarters, the Mike Monroney Aeronautical Center, and the Federal Aviation Administration Technical Center. They are responsible for developing, coordinating, and prescribing technical standards and procedures for installation, improvement, performance, and maintenance of facilities in the National Airspace System.

($ in 000)

	PC&B	Other Objects	Total	[illegible]	[illegible]
A. FY 1986 Level	$ [illegible]	$ [illegible]	$ [illegible]	[illegible]	[illegible]
B. Annualization, price level and other non-discretionary adjustments	[illegible]	[illegible]	[illegible]	---	---
C. Management Savings	---	---	---	---	---
D. Planned Program Increases	---	[illegible]	[illegible]	---	---
E. Recommended Program Increases	[illegible]	---	[illegible]	---	---
F. FY 1987 Proposed	$ [illegible]	$ [illegible]	$ [illegible]	[illegible]	[illegible]

The estimate for FY 1987 provides for a net increase of $[illegible] over FY 1986. The changes in requirements for FY 1987 are summarized below:

A. Annualization, price level and other non-discretionary adjustments $[illegible]

The net increase of $[illegible] includes:

1. $[illegible] [illegible] FY 1986 [illegible]

2. $[illegible] for annualization to provide full-year funding of the within-grade increases that were effective for only part of FY 1986.

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Maintenance of Traffic Control System

3. $271,000 for part-year funding of 434 new within-grade increases for employees who will become eligible during FY 1987;

4. $128,000 for 127 merit pay increases which become effective in FY 1987; and,

5. $408,000 to provide for price increases required to continue essential programs and services in effect at the end of FY 1986, e.g., services supplies, and materials.

5. Planned Program Decreases $-836,000

Program Decreases of $836,000 include the following:

A decrease of $836,000 is associated with nonrecurring costs for equipment and the Technical Center modification program.

6. Recommended Program Increases $+156,000

An increase of $156,000 is associated with permanent change-of-station moves.

OPERATIONS

Maintenance of Traffic Control System

Planning, Direction, and Evaluation

Employees funded under this subactivity are responsible for planning and direction, defining program objectives, formulating standards, evaluating the effectiveness of operations related to installation, improvement, and maintenance of facilities in the National Airspace System (NAS). These employees are located in Washington, the Regional Headquarters, the Mike Monroney Aeronautical Center, and the Federal Aviation Administration Technical Center.

($ in 000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$ 19,980	$ 12,654	$ 32,634	406	390
B. Annualization, price level and other non-discretionary adjustments	+383	+645	+1,028	---	---
C. Management Savings	---	---	---	---	---
D. Planned Program Decreases	-34	-20	-54	---	---
E. Recommended Program Increases	---	+10,000	+10,000	---	---
F. FY 1987 Proposed	$ 20,329	$ 23,279	$ 43,608	406	390

The estimate for FY 1987 provides for a net increase of $10,974,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments $+1,028,000

The net increase of $1,028,000 includes:

1. $157,000 to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman;

2. $123,000 for annualization to provide full-year funding of 196 within-grade increases that were effective for only part of FY 1986;

3. $174,000 for part-year funding of 278 new within-grade increases for employees who will become eligible during FY 1987;

4. $86,000 for 84 merit pay increases which become due in FY 1987; and,

5. $488,000 to provide for price increases required to continue programs and services in effect at the end of FY 1986.

D. Planned Program Decreases $-54,000

A decrease of $54,000 is associated with non-recurring permanent change-of-station moves.

E. Recommended Program Increases $+10,000,000

Program increases of $10,000,000 include the following:

The increase of $10,000,000 provides the initial funding for a pilot test of contractor maintenance at low activity airports having visual flight rules (VFR) towers, at non-towered and at selected Flight Service Stations located within three specified regions.

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Maintenance of Traffic Control System

Leased Telecommunications Services

Defense Commercial Communications Office (DECCO)/Aeronautical Radio, Inc. (ARINC)/Other

This subactivity provides for leased telecommunications services for all operational FAA facilities. Services are either procured by or are contracted with either DECCO, ARINC, or other contractors:

DECCO--(a) full-time long distance telephone circuits (interphone) used to transmit messages pertaining to the flow and control of air traffic operating under instrument flight rule weather conditions; (b) circuits from control points to adjacent air navigation facilities; (c) digital data circuits for collection and distribution of weather information and reports which include notices to airmen concerning runway or other conditions such as inoperative air navigation aids, flight progress reports, and aircraft arrival reports; (d) remote control circuits to connect the air route traffic control centers with remote air/ground transmitters and receivers which provide controllers with direct radio communications with aircraft under their control; (e) radar remoting systems for the transmission of intelligence and voice communications from radar sites to air route traffic control centers; (f) facsimile services to transmit radar and weather information to flight service stations; and (g) dedicated radio circuits at remote towers and flight service stations;

ARINC--FAA costs for U.S. obligations in support of the aeronautical fixed services used for international air commerce; and

Various Contractors--leased telecommunications requirements not provided by DECCO or ARINC, e.g., Interim Voice Response System, Telecommunications System Support, and Operational Telecommunications Data Base.

OPERATIONS

Maintenance of Traffic Control System

Leased Telecommunications Services

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ ---	$165,900	$165,900	---	---
B.	Annualization, price level and other non-discretionary adjustments	---	+23,985	+23,985	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	-25,817	-25,817	---	---
E.	Recommended Program Increases	---	+12,759	+12,759	---	---
F.	FY 1987 Proposed	$ ---	$176,827	$176,827	---	---

The estimate for FY 1987 provides a net increase of $10,927,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments $+23,985,000

The net increase of $23,985,000 includes:

1. $1,300,000 to avoid further deferment of services that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $12,693,0000 for annualization of recurring charges funded part-year in FY 1986 for operational leased telecommunications circuits required for new facility commissionings, modernization, and expansion of existing services;

3. $6,092,000 to provide for price increases required to continue leased telecommunications services support for existing facilities, equipments, and services in operation at the end of FY 1986; and,

4. $3,900,000 for AT&T tariff increases (numbers 9, 10, and 11), effective January 11, 1986.

D. Planned Program Decreases $-25,817,000

Program decreases of $25,817,000 include the following:

1. $5,744,000 reduction for one-time nonrecurring costs associated with operational telecommunications services initiated during FY 1986 for new facilities and expanded services; and,

2. $20,073,000 for decreases accomplished through the replacement of existing FAA communication systems with more up-to-date, efficient systems. This results from savings in maintenance costs, while providing improved services and system expansion, improved reliability, reduction in leased-line requirements, and consolidations of communications within FAA to provide the necessary system interoperability.

E. Recommended Program Increases $+12,759,000

Program increases of $12,759,000 include the following:

1. $8,208,000 for new and expanded recurring services, such as the Radio Communications Link Network, installation of demarcation points at facilities, the Flight Service Automation System, flight data input/output, and the Next Generation Weather Radar system; and,

2. $4,551,000 for one-time nonrecurring installation charges.

OPERATIONS

Maintenance of Traffic Control System

Leased Telecommunications Services
Defense Commercial Communications Office (DECCO)

The operations portion of the leased telecommunications program is procured through DECCO. Department of Defense/FAA procurement of leased telecommunications services is unified to effect maximum economies to the Government.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ ---	$148,384	$148,384	---	---
B.	Annualization, price level and other non-discretionary adjustments	---	+23,811	+23,811	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	-25,817	-25,817	---	---
E.	Recommended Program Increases	---	+12,759	+12,759	---	---
F.	FY 1987 Proposed	$ ---	$159,137	$159,137	---	---

The estimate for FY 1987 provides a net increase of $10,753,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments $+23,811,000

The net increase of $23,811,000 includes:

1. $1,300,000 to avoid further deferment of services that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $12,693,000 for annualization of recurring charges funded part-year in FY 1986 for operational leased telecommunications circuits required for new facility commissionings, modernization, and expansion of existing services;

3. $5,918,000 to provide for price increases required to continue lease telecommunications services support for existing facilities, equipments, and services in operation at the end of FY 1986; and,

4. $3,900,000 for AT&T tariff increases (numbers 9, 10, and 11), effective January 11, 1986.

D. Planned Program Decreases $-25,817,000

Program decreases of $25,817,000 include the following:

1. $5,744,000 reduction for one-time nonrecurring costs associated with operational telecommunications services initiated during FY 1986 for new facilities and expanded services; and,

2. $20,073,000 for savings accomplished through the Radio Communications Link network ($7,473,000); FSS closures ($2,128,000); utilization of less expensive maintenance for the ICSS ($1,468,000); purchase of leased equipment (ICSS -- $4,930,000 and Paradyne modems -- $2,952,000); and the elimination of broadband radar circuits ($1,122,000).

E. Recommended Program Increases $+12,759,000

Program increases of $12,759,000 include the following: $8,208,000 for new and expanded recurring services; and $4,551,000 for one-time nonrecurring installation charges. A summary by major category follows:

1. Interphone	$7,572,000
2. Air Navigation Facility Monitoring and Control Circuits	564,000
3. Digital Data Service	1,050,000
4. Remote Center Air/Ground (RCAG)	82,000
5. Radar Remoting	5,000
6. Facsimile/Miscellaneous Service	3,073,000
7. Remote Tower, Flight Service Station Radio Circuits	413,000

These requirements are further defined below:

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Maintenance of Traffic Control System

1. Interphone, $7,572,000. Interphone service requirements include telephone and radio lines, together with additional leased equipment, to provide direct exchange of air traffic control information at various locations for: (a) coordinating radar surveillance of jet aircraft; (b) reducing traffic delays in peak periods; and (c) accommodating traffic activity demands. The interphone criteria used relates interphone lines between FAA facilities to aircraft handled, actual operational traffic counts and provides a reliable guide or formula for use in determining requirements. The types of lines and facilities associated with interphone services are:

   Flight Service Facilities:
    Automatic Call Distributor
    Integrated Communications Switching System

   Radar Approach Facilities:
    Air Traffic Control Centers
    Towers
    Flight Service Stations

   Flight Assistance Services

   International Communications

   Center Intra-area Circuits

   Inter-center Circuits

   Tower En Route Circuits

The requested increase of $7,572,000 includes:

Flight Service Automation System (FSAS), $672,000. Automation of the flight service stations (FSS) is designed to increase facility productivity and assist the FSS system in meeting current and forecasted demands for service. These funds will provide pilots with toll-free access to the AFSS's; and the voice and data circuits required to connect the AFSS's with the weather computer system, other AFSS's, FSS's, Airport Traffic Control Towers, and Air Route Traffic Control Centers.

OPERATIONS

Maintenance of Traffic Control System

Radio Communications Link (RCL) Network, $6,900,000.

The RCL network is an integrated voice and data transmission system designed to provide the FAA with cost effective and reliable service for its high capacity NAS communication routes. It will handle current voice, data, and broadband analog radar data traffic plus future NAS plan requirements, including redundant and alternate routing capability. The RCL network will build on the disjoint Radar Microwave Link system currently in use, to create an interconnected national RCL system.

Funding will be required for 80 cable installations to provide access from TELCO facilities to RCL nodes and 251 leased tail circuit configuration and connection charges for cutover of embedded base circuits in FY 1987.

2. Air Navigation Facility Monitoring and Control Circuits, $564,000.

Some electronic facilities enable a pilot/navigator to determine the aircraft's relative position using compatible airborne equipment to provide direct indication of distance and bearing without resorting to radio voice communications. This request provides $483,000 for additional circuits at many locations. Typical circuits provide lines for monitoring and control of facilities and, in some instances, the coordination of air traffic instructions between adjacent facilities. Representative facility types follow:

Very High Frequency Omnirange/Tactical Air Navigation/Facility Circuits

Homing Beacon Facility Circuits

Direction Finder Remoting Circuits

Instrument Landing System Facility Circuits

Telewriter Circuits

Miscellaneous Circuits

OPERATIONS

Maintenance of Traffic Control System

There is an increase of $81,000 in this category for Loran C signal monitors. Loran C is a low frequency hyperbolic radio navigation system maintained and operated by the U.S. Coast Guard (USCG). The FAA project is intended to meet a growing demand from the aviation community for Loran C area navigation/landing aid services. Loran C was originally developed for marine use, but currently provides overland coverage to about two-thirds of the land area of the Continental United States (CONUS). This service is principally used for air navigation by general aviation and off-shore helicopter operations in low-altitude, remote, and off-shore areas not well served by VOR/DME equipment. Two major services will result from this project: single-level, or better, coverage for en route and terminal IFR navigation for the entire CONUS and published nonprecision IFR approaches at designated airports.

Five new Loran C stations will be implemented during FY 1988-1990 to expand coverage throughout the mid-continent gap. FAA will provide funds to USCG to procure, operate, and maintain these transmitters. Nonprecision IFR approaches will be enabled by 102 signal monitors designed to report correction values to ATC facilities (ARTCC's, ATCT's). FAA will separately procure, operate, and maintain these signal monitors. Funding will be required for 30 Loran C signal monitors to be implemented in FY 1987.

3. Digital Data Service, $1,050,000. These funds will support the following:

Flight Data Input/Output (FDIO), $550,000. The FDIO project replaces existing flight data entry and printout and en route flight strip printer systems, and establishes FDIO's at additional airport locations. New establishments allow the automatic exhchange of flight data between air route traffic control centers over telephone lines. Automatic exchange is a vast improvement over manual exchange which is time consuming, can cause delays to air traffic, and can create the potential for human error.

OPERATIONS

Maintenance of Traffic Control System

Next Generation Weather Radar (NEXRAD) System, $500,000. NEXRAD is a tri-agency program sponsored by the National Weather Service, the Air Weather Service, and the FAA to develop and implement a network of advanced Doppler weather surveillance radars. A Joint Special Program Office composed of representatives from three agencies manages the NEXRAD project.

The NEXRAD system will provide real-time information on the location, intensity, and movement of both routine and hazardous weather phenomena. These phenomena include precipitation, wind and wind shear, tornadoes, fronts, tropical cyclones, mesocyclones, thunderstorms, turbulance, icing conditions, hail, and freezing/melting level.

4. Remote Center Air/Ground (RCAG), $82,000. RCAG provides air-to-ground communications. It is an unmanned transmitter/receiver facility with voice-frequency signaling equipment controlled by an air route traffic control center. This request provides circuits for additional channels to accommodate increased air traffic moving at higher speeds. This requirement is necessary because the controller must have direct radio communications available at all times with any aircraft under his control. These funds will provide additional miles of leased circuits at various locations.

5. Radar Remoting, $5,000. As part of the National Airspace System, leased narrow band radar remoting is provided when requirements dictate that the service is necessary where FAA Radar Microwave Link systems do not exist. These funds will provide circuits for additional radar services from several locations.

6. Facsimile/Miscellaneous Service, $3,073,000. These funds will support the following:

   $2,610,000 for the installation of clear, concise demarcation (DEMARCS) points between transmission media and customer premise equipment. The DEMARCS program will provide for the installation of FAA-owned and controlled master demarcs and jack fields at ARTCC's (Phase I--FY 87), FSS's and TRACON's (Phase II), and towers (Phase III). FAA-owned demarcs will increase the capability to transition to the Radio Communications Link.

OPERATIONS

Maintenance of Traffic Control System

$327,000 for the Airport Weather Information System (AWIS) Electrowriter replacement program which will replace outdated equipment terminals at various FAA facilities and thereby reduce a major maintenance problem. Electrowriters (hand-writing machines) are in general use by the FAA to transmit changes in weather information, airport conditions, pilot alerts, etc., between Flight Service Stations, Air Traffic Control Towers, Terminal Radar Approach, National Weather Service field offices, and commercial users.

$[illegible] for the installation of new Automated Digital Network (AUTODIN) equipment - type [illegible] circuits from new locations to the nearest AUTODIN switch.

7. Remote Tower, Flight Service Station Radio Circuits, $[illegible]. This service consists of dedicated radio circuits supporting various remote tower and flight service stations, and is used by personnel to communicate with en route aircraft. Many air traffic control towers and most flight service stations are required to communicate with pilots who are too far from the facility to be reached by locally installed radio transmitters and receivers. In these cases, leased circuits are necessary to connect the air traffic controller or flight service specialist to remotely positioned radios which are strategically located to provide radio coverage for the tower or station specialist.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
a. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
b. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
c. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
d. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
e. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
f. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

b. [illegible] [illegible]

[illegible]

[illegible]

d. [illegible]

None

e. [illegible]

None

[illegible]

Operations

Maintenance of Traffic Control System

Leased Telecommunications Services
Other Leased Telecommunications Requirements

Other leased telecommunications requirements not provided through allied units of [illegible] include the following:

(1) Telecommunications system support -- Funding for the DOT Transportation Systems Center (TSC) to identify, design, evaluate, and support the implementation of improved procedures and tools for managing the FAA Telecommunications System. (Contracted through TSC, Cambridge, Massachusetts).

(2) Operational communications data base -- Funding for TSC to continue to operationally support the FAA Communication Information System during the period of transition to a new Telecommunications Management System. (Contracted through TSC); and,

(3) Interim pilot weather briefing system -- Funding for a computerized voice system that provides continuously updated weather information to pilots at 10 nationwide locations via touch-tone telephones. The system will be leased through September 1986. After that time, FAA will have a permanent version operating as part of the Flight Service Automation System. (Contracted with Input Output Computer Services, Inc., Waltham, Massachusetts).

OPERATIONS

Maintenance of Traffic Control System

Leased Telecommunications Services
Other Leased Telecommunications Requirements

($ in 000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$ ---	$ 6,316	$ 6,316	---	---
B. Annualization, price level and other non-discretionary adjustments	---	+74	+74	---	---
C. Management Savings	---	---	---	---	---
D. Planned Program Decreases	---	---	---	---	---
E. Recommended Program Increases	---	---	---	---	---
F. FY 1987 Proposed	$ ---	$ 6,390	$ 6,390	---	---

The estimate for FY 1987 provides for a net increase of $74,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments $+74,000

The net increase of $74,000 includes:

$74,000 to provide for price increases required to continue leased telecommunications services support in existence at the end of FY 1986.

D. Planned Program Decreases

None

E. Recommended Program Increases

None

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVIATION STANDARDS
($ 000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	Total Ceiling FTE
1. FY 1985 Actual	$259,193	$259,193	N/A	4,547	4,239
2. FY 1986 Level	263,375	268,669	N/A	4,886	4,515
3. Annualization, price level and other non-discretionary adjustments	+23,178	+23,178	N/A	---	+115
4. Management Savings	---	---	N/A	---	---
5. Planned Program Decreases	-315	-5,609	N/A	---	---
6. Recommended Program Increases	+12,700	+12,700	N/A	+138	+69
7. FY 1987 Proposed	$298,938	$298,938	N/A	5,024	4,699

OPERATIONS

Administration of Aviation Standards Program

General Justification

The primary objectives of this program are: (1) promote aviation safety and (2) safeguard passengers, crew, aircraft, and airports from the threat of violence of hijacking, sabotage, and other criminal acts in accordance with Public Law 93-366, Anti-hijacking Act of 1974 and Public Law 99-83, International Security and Development Cooperation Act of 1985. Within the framework provided by Title VI, Federal Aviation Act of 1958, as amended, Administration of the Aviation Standards Program includes the development, publication and administration of the safety standards, rules and regulations applicable to airmen, aircraft, and operations involved in all United States civil aviation throughout the world, and foreign operations into and over United States territory. As part of its safety function, this program also provides for monitoring the accuracy of signals emitted by the aids to air navigation in the common system and other military facilities not a part of the common system. Flight procedures are also developed for use by United States civil and military aviation and foreign air carriers operating into the United States. It also includes a system of registration and recordation of airmen and aircraft as provided by Title V of the Act.

The 1987 estimates provide for staffing and funding requirements for the continuation of functions under the Aviation Standards Program as follows:

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$192,423	$76,246	$268,669	4,886	4,515
B.	Annualization, price level and other non-discretionary adjustments	+19,226	+3,952	+23,178	---	+115
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	-5,609	-5,609	---	---
E.	Recommended Program Increases	+4,140	+8,560	+12,700	+138	+69
F.	FY 1987 Proposed	$215,789	$83,149	$298,938	5,024	4,699

OPERATIONS

Administration of Aviation Standards Program

Aircraft Certification. The FY 1987 increase of $2,701,000 for this subactivity includes $1,513,000 to avoid repetition of furloughs and early outs taking place in FY 1986; $667,000 for mandatory personnel costs and price level adjustments; and, $521,000 for program increases to support aircraft certification.

Operation and Maintenance. The FY 1987 increase for this subactivity includes $8,207,000 to avoid repetition of furloughs and early outs taking place in FY 1986; $4,781,000 for mandatory personnel costs and price level adjustments; and, $6,353,000 and 138 positions to support the aviation safety inspection area.

Records Servicing and Analysis. The FY 1987 net decrease of $132,000 for this subactivity includes $54,000 for mandatory personnel costs and price level adjustments offset by decreases for nonrecurring FY 1986 expenses of $186,000.

Flight Program and Management of Aircraft. The FY 1987 increase of $3,819,000 includes $1,728,000 to avoid repetition of furloughs and early outs taking place in FY 1986; $1,596,000 for mandatory personnel costs and price level adjustments; and, $495,000 for increased flight hours.

Civil Aviation Security. The FY 1987 net decrease of $2,484,000 includes $1,075,000 to avoid repetition of furloughs and early outs taking place in FY 1986, $1,695,000 for mandatory personnel costs and price level increases; and, $40,000 for rental office space offset by decreases for nonrecurring FY 1986 expenses of $5,294,000.

Medical. The FY 1987 increase of $1,650,000 for this subactivity includes $881,000 to avoid repetition of furloughs and early outs taking place in FY 1986; $272,000 for mandatory personnel costs and price level adjustments; and, $497,000 to support the medical program.

Planning, Direction, and Evaluation. The FY 1987 increase of $2,888,000 for this subactivity includes $44,000 for mandatory personnel costs and price level adjustments; and, $2,844,000 for contractual services related to regulatory review.

Aviation Safety. The increase of $2,486,000 includes $292,000 to avoid repetition of furloughs and early outs taking place in FY 1986; $226,000 for mandatory personnel costs and price level adjustments; and, $1,968,000 for contractual studies related to aviation safety.

OPERATIONS

Administration of Aviation Standards Program

Aircraft Certification

Included within this subactivity are the costs associated with development and administration of safety standards governing the type, production, and original airworthiness certification of aircraft, engines, propellers, appliances, and noise level certification. The agency responsibility in this area begins with the development of standards, continues through examination of applications of certifications, and on through engineering design and flight test phases. Following design approval, the agency's responsibilities extend to approval of quality control procedures for production; determinations that each product is of the proper configuration for safe operations; and that corrections are made for difficulties encountered in actual service.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ 31,809	$ 3,329	$ 35,138	775	691
B.	Annualization, price level and other non-discretionary adjustments	+1,980	+200	+2,180	---	+1
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	---	---	---	---
E.	Recommended Program Increases	---	+521	+521	---	---
F.	FY 1987 Proposed	$ 33,789	$ 4,050	$ 37,839	775	692

OPERATIONS

Administration of Aviation Standards Program

Workload and Performance Indicators

	FY 1985	FY 1986	FY 1987
Type Certificates/Amendments	127	90	95
Supplemental Type Certificates	2,014	1,260	1,300
Technical Standard Order Authorizations	977	530	530
Airworthiness Directives	534	300	300
Production Certificates	1,051	7	7
Parts Manufacturing Authorizations	228	625	650

The estimate for FY 1987 provides for a net increase of $2,701,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments +$2,180,000

The net increase of $2,180,000 includes:

1. $1,513,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;
2. $172,000 for annualization to provide full-year funding of 275 within-grade increases that were effective for only part of FY 1986.
3. $247,000 in PC&B for part-year funding of 280 within-grade increases, and full-year funding of 127 merit pay increases to become effective in FY 1987;
4. $48,000 in PC&B to fund 1 additional FTE based on part-year employment in FY 1986; and,
5. $200,000 to fund inflationary and price level, increases for travel, rent, communication, utilities, other services, supplies, and equipment.

E. Recommended Program Increases $+521,000

Program increases of $521,000 include the following:

1. $281,000 for travel requirements related to increased certification activities; and,
2. $240,000 for relocation and lease costs associated with rental space due to impending consolidations.

OPERATIONS

Administration of Aviation Standards Program

Operation and Maintenance

This program covers the cost of certification and inspection activities associated with the operation and maintenance of aircraft by air carriers and the general aviation community. With regard to air carriers, inspectors check qualifications of pilots and other airmen through flight tests and written examinations, and exercise continuing surveillance over en route operations, training programs, and maintenance shops and procedures. In the general aviation area, appropriate practical and written examinations, flight tests and surveillance are provided pilots and mechanics. Surveillance is also maintained over air taxi operations, fixed-base operators, aerial applicators, training schools, shops, and repair stations to determine that operations and maintenance are in conformance with safety regulations..

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$100,022	$14,410	$114,432	2,427	2,297
B.	Annualization, price level and other non-discretionary adjustments	+11,783	+1,205	+12,988	---	+75
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	---	---	---	---
E.	Recommended Program Increases	+4,140	+2,213	+6,353	+138	+69
F.	FY 1987 Proposed	$115,945	$17,828	$133,773	2,565	2,441

OPERATIONS

Administration of Aviation Standards Program

Workload and Performance Indicators

	FY 1985	FY 1986	FY 1987
Airmen Certifications	77,812	78,960	82,120
Operation Certifications	19,325	20,080	20,880
Investigations	19,961	23,470	24,400
Inspections	64,035	69,990	75,449

The estimate for FY 1987 provides for a net increase of $19,341,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, price level and other non-discretionary adjustments +$12,988,000

Increases totaling $12,988,000 include the following:

1. $8,207,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $2,650,000 in PC&B and 75 FTE's to fund annualization of 150 new safety inspector positions in FY 1986;

3. $497,000 for annualization to provide full-year funding of 828 within-grade increases that were effective for only part of FY 1986;

4. $494,000 in PC&B for 183 merit pay and part-year funding of 640 within-grade increases for employees who will become eligible in FY 1987; and,

5. $1,140,000 inflationary increases for travel, transportation, rent, communications, utilities, other services and supplies.

E. Recommended Program Increases +138 positions, $+6,353,000

Program increases totalling $6,353,000 include the following:

1. $4,140,000 in PC&B to fund 138 positions and 69 FTE's for the additional aviation safety inspectors. Sharply increased workload which entails safety certification, inspection, and surveillance far exceeds the capability of current work force. This increase results from the job task analysis of the Project SAFE study; and,

OPERATIONS

Administration of Aviation Standards Program

2. $2,213,000 for contractual services related to aviation safety. This request is to support a proposed Records Examination Assistance Program (REAP). This concept will provide contract assistance to supplemental FAA inspector resources for records examination. REAP personnel will be skilled records examiners (auditors), not aviation experts.

AVIATION STANDARDS
FULL-TIME PERMANENT POSITIONS

	FY 1986 Column of FY 1986 Request to Congress	Proposed FY 1986 Amendment	FY 1986 Column of FY 1987 Congressional Submission	FY 1987 Program Increase	FY 1987 Column of FY 1987 Congressional Submission
Operation and Maintenance					
Air Carrier Inspectors	674	+ 54	728	+ 62	790
General Aviation Inspectors	936	+ 96	1,032	+ 76	1,108
Total Inspectors	1,610	+150	1,760	+138	1,898

Additional inspection positions above the minimum 150 will be filled in FY 1986 to the extent funds are available and with the intent of meeting the Conferees' goal to the maximum possible extent.

Operations.

Administration of Aviation Standards Program

Records Services and Analysis

Included in the records services and analysis subactivity is a program for the issuance of airmen certificates, registration of civil aircraft, and registration of conveyances affecting title to U.S. civil aircraft components.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos.	Total Including FTE
a.	FY 1986 Level	$ 2,414	$ 1,347	$ 3,761	148	155
b.	Annualization, price level and other non-discretionary adjustments	+124	+15	+139	---	---
c.	Management Savings	---	---	---	---	---
d.	Planned Program Decreases	---	-446	-446	---	---
e.	Recommended Program Increases	---	---	---	---	---
f.	FY 1987 Request	$ 2,538	$ 916	$ 3,454	148	155

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OPERATIONS

Administration of Aviation Standards Program

Flight Program and Management of Aircraft

Workload and Performance Indicators

	FY 1985	FY 1986	FY 1987
Use of Flight Hours			
Flight Inspection	19,335	24,858	25,763
Evaluation, Currency and Transportation	25,517	24,108	28,619
Logistics	242	170	170
Training	8,454	5,414	5,414
Total Flight Hours	53,548	54,550	59,966
Development and Revision of Flight Procedures		16,731	16,981
Number of Facilities Requiring Flight Inspection		11,490	11,890

The estimate for FY 1987 provides for an increase of $3,819,000 from FY 1986. The changes in requirements for FY 1987 are summarized below.

B. Annualization, price level and other non-discretionary adjustments $3,324,000

The requested increase of $3,324,000 includes the following:

1. $1,728,000 to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $163,000 for annualization to provide full-year funding of 260 within-grade increases that were effective for only part of FY 1986;

3. $157,500 for part-year funding of 251 new within-grade increases for employees who will become eligible during FY 1987;

4. $93,000 in PC&B for 115 merit pay increases to become effective in FY 1987;

5. $1,133,000 due to price level increases for travel, transportation, rents, communications, utilities, other services, and supplies; and,

6. $49,500 required for PC&B to annualize 1 FTE which was funded part-year in FY 1986.

OPERATIONS

Administration of Aviation Standards Program

E. Recommended Program Increases $+495,000

$495,000 is required for aircraft and simulator rental due to increased hours required for air carrier and general aviation operations inspectors to meet minimum proficiency requirements.

OPERATIONS

Administration of Aviation Standards Program

Civil Aviation Security

In the interest of air transportation safety, this program provides for the overall planning, direction, management, evaluation, and enforcement of civil aviation security. The primary objective of the Civil Aviation Security Program is to safeguard passengers, crew, aircraft, and airports from the threat of violence of hijacking, sabotage, and other criminal acts in accordance with Public Law 93-366, Anti-Hijacking Act of 1974 and Public Law 99-83, International Security and Development Cooperation Act of 1985.

Included within the Civil Aviation Security Program are statutory responsibilities to insure that those foreign carriers who operate to, from, and within the United States implement an effective security program. This includes combating explosive bomb threats against U.S. airports and aircraft, and providing technical assistance and guidance to airports to protect air cargo from threats. The program has been expanded to include the increased use of Federal Air Marshals (FAMs) and the enhanced assessment and monitoring of foreign/domestic airports and domestic air carriers.

This activity also covers the Investigations and Security Program functions which involve responsibility for the control of classified and sensitive information; the protection of communication and automatic data processing information; and the investigation of personnel and physical security policies and standards.

	($ in 000)				
	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$15,718	$13,203	$28,921	436	386
B. Annualization, price level and other non-discretionary adjustments	+2,380	+390	+2,770	-	+38
C. Management Savings	-	-		-	-
D. Planned Program Decreases	-	-5,294	-5,294	-	-
E. Recommended Program Increases	-	+40	+40	-	-
F. FY 1987 Proposed	$18,098	$8,339	$26,437	436	424

Workload and Performance Indicators

	FY 1985	FY 1986	FY 1987
Investigations Employee misconduct and theft of agency property	2,059	2,130	2,191
Internal Security Personnel, physical, information and computer security	13,030	13,231	13,560
Inspections Ensure compliance and enforcement of the Federal Aviation Regulations and security procedures	15,347	15,455	15,636
Enforcements Citing of violations and issuance of regulations	4,411	4,459	4,486

The estimate for FY 1987 provides a net decrease of $2,484,000 below FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, Price Level and Other Non-Discretionary Adjustments $+2,770,000

The net increase of $2,770,000 includes:

1. $1,075,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $60,000 for annualization to provide full-year funding of 89 within-grade increases that were effective for only part of FY 1986.
3. $178,000 for 279 within-grade increases to become effective in FY 1987.
4. $55,000 for 54 merit pay increases to become effective in FY 1987.
5. $137,000 for price level increases for other services and rents, communications and utilities.
6. $1,265,000 is requested to fund 38 additional FTEs associated with the hiring of FY 1986 personnel required to expand the Federal Air Marshal (FAM) program and to support the enhanced foreign/domestic airport and domestic air carrier inspection programs.

C. Management Savings -0-

D. Planned Program Decreases $-5,294,000

Program decreases of $5,294,000 include the following:

1. $3,495,000 for reimbursement to U.S. air carriers for security screening costs incurred in foreign air transportation. Funds were specifically authorized and appropriated to compensate the air carriers for expenditures in the FY 1975 to FY 1980 timeframe. Final payment is expected to be made in FY 1986. Funds will remain available until expended.

2. $1,395,000 reduction reflects one-time costs associated with equipping the personnel in the expanded security program.

3. $404,000 reduction in travel and transportation of things associated with moving the employees and their families stationed abroad.

E. Recommended Program Increases $+40,000

Program increases of $40,000 include the following:

1. $40,000 increase in rental office space is requested to adequately accommodate the additional personnel, domestically and abroad.

OPERATIONS

Administration of Aviation Standards Program

Medical Program

This activity includes staffing and funding for conducting the agency's aviation medical program, including airmen medical certification, the aviation medical examiner system, medical aircraft accident investigation, airmen medical standards, occupational health, airmen education, and medical research direction.

	($ in 000)				
	PC&B	Other Objects	Total	FTP Pos.	Total Ceiling FTE
A. FY 1986 Level	$6,835	$2,647	$ 9,482	225	207
B. Annualization, price level and other non-discretionary adjustments	+507	+646	+1,153	-	-
C. Management Savings	-	-	-	-	-
D. Planned Program Decreases	-	-	-	-	-
E. Recommended Program Increase	-	+497	+497	-	-
F. FY 1987 Proposed	$7,342	$3,790	$11,132	225	207

Workload and Performance Indicators

	FY 1985 Actual	FY 1986	FY 1987
Airmen Medical Certification Applications Processed	479,782	503,700	523,800
Airmen Medical Reconsideration Applications Processed	1,100	1,100	1,100
Physical Examinations Performed	26,574	23,054	27,081
Industrial Hygiene Consultations/Inspections/Investigations/Surveys	599	630	660
Airmen Medical Education Activities Conducted	1,080	1,442	1,469
Aviation Medical Examiners Designated	8,135	8,074	8,074

The estimate for FY 1987 provides for a net increase of $1,650,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, Price Level and Other Non-Discretionary Adjustments $+1,153,000

The net increase of $1,153,000 includes:

1. $881,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.

2. An increase of $24,000 for annualization of 75 within-grades approved in FY 1986 but effective only a portion of the fiscal year.

3. Increase of $54,000 which reflects part-year funding for 104 new within-grades and merit pay in FY 1987.

4. $129,000 to reflect price level increases in other objects.

5. $65,000 will be required for awards and other PC&B costs.

C. Management Savings -0-

D. Planned Program Decreases -0-

E. Recommended Program Increases $+497,000

1. $35,000 for travel days for Air Traffic Controllers (ATCs) physical examinations; travel to evaluate newly designated Aviation Medical Examiners (AMEs) performance; transportation of exhibits to aviation medical education seminars; and for communication services to transmit EKG data electronically to the Aeronautical Center.

2. $385,000 is required for physical examinations necessitated by increases in the air traffic controller and the Federal Air Marshal programs.

3. $77,000 to fund printing and reproduction services for microfilming pathology, medical files, and EKGs of airmen medical records.

OPERATIONS

Administration of Aviation Standards Program

Planning, Direction, and Evaluation

The overall planning, direction, management, and evaluation of the Aviation Standards activities, including development of safety regulations, are programmed under this subactivity.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ 2,819	$11,060	$ 13,879	53	51
B.	Annualization, price level and other non-discretionary adjustments	+39	+5	+44	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	---	---	---	---
E.	Recommended Program Increases	---	+2,844	+2,844	---	---
F.	FY 1987 Proposed	$ 2,858	$13,909	$ 16,767	53	51

This program provides support to all the other Aviation Standards activities; therefore, workload and performance indicators are not appropriate.

The estimate for FY 1987 provides for a net increase of $2,888,000 over FY 1986. The changes in requirements for FY 1987 are summarized below:

OPERATIONS

Administration of Aviation Standards Program

B. Annualization, price level and other non-discretionary adjustments $+44,000

Increases totalling $44,000 include the following:

1. $17,000 for annualization to provide full-year funding of 25 within-grade increases that were effective for only part of FY 1986.

2. $22,000 in PC&B for 5 merit pay and part-year funding of 26 within-grade increases for employees who will become eligible in FY 1987; and,

3. $5,000 due to inflation for selected other objects.

C. Recommended Program Increases $+2,844,000

An increase of $2,844,000 is required for:

1. $2,800,000 for contractual services related to regulatory review. The contractor will participate in a number of activities leading to responsive rulemaking for aviation safety. These activities will include regulatory development, Federal Aviation regulations background research, regulatory impact analyses, petitions for exemptions, and petitions for rulemaking. This support will enable the FAA to streamline the rulemaking processing, to standardize the process, and improve the capabilities of the rulemaking staff; and,

2. $44,000 for word processing equipment and data transmission.

OPERATIONS

Administration of Aviation Standards Program

Aviation Safety

The program promotes safety and safety consciousness in air commerce while conducting investigations of accidents and incidents, evaluates the efficacy of selected programs on safety matters, analyzes trends, and conducts special analyses on safety issues.

($ in 000)

		PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A.	FY 1986 Level	$ 1,916	$ 4,205	$ 6,121	41	38
B.	Annualization, price level and other non-discretionary adjustments	+153	+365	+518	---	---
C.	Management Savings	---	---	---	---	---
D.	Planned Program Decreases	---	---	---	---	---
E.	Recommended Program Increases	---	+1,968	+1,968	---	---
F.	FY 1987 Proposed	$ 2,069	$ 6,538	$ 8,607	41	38

OPERATIONS

Administration of Aviation Standards Program

The estimate for FY 1987 provides for an increase of $2,486,000 over FY 1986. The changes in requirements for FY 1987 are summarized below.

B. Annualization, price level and other non-discretionary adjustments $+518,000

Increases totalling $518,000 include the following:

1. $292,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions;

2. $10,000 for annualization to provide full-year funding of 11 within-grade increases that were effective for only part of FY 1986;

3. $9,000 in PC&B for part-year funding of 10 within grade increases for employees who will become eligible during FY 1987;

4. $13,000 in PC&B for 14 merit pay increases to become effective in FY 1987; and,

5. $194,000 due to price level increases for travel, other services, rental of office equipment and office supplies.

E. Recommended Program Increases $+1,968,000

$1,968,000 is needed to fund increased contractual services for various special analysis studies such as Risk Analysis, Pilot Medical/Flight Time Analysis, Accident Investigation Training Evaluation, Quality Assurance Study of Accident Reporting, National Airspace System Safety Plan, National Airspace Information Monitoring System, Quality Assurance Program for Accident Investigation, and Evaluation of Relationship Between Air Carrier Financial Condition and Safety Posture. This is an increase over an FY 1986 base of $4,131,900.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Development Direction
($ in 000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Pos.	TOTAL Ceiling FTE
1. FY 1985 Actual	$8,923	$8,923	N/A	138	136
2. FY 1986 Level	9,486	9,486	N/A	138	129
3. Annualization, price level and other non-discretionary adjustments	563	563	N/A	-	-
4. Management Savings	-73	-73	N/A	-	-2
5. Planned Program Decreases	-945	-945	N/A	-	-
6. Recommended Program Increases	-	-	-	-	-
7. FY 1987 Proposed	$9,031	$9,031	N/A	138	127

OPERATIONS

Development Direction

General Justification

The Development Direction activity provides for the planning, directing, monitoring and coordinating of the Federal Aviation Administration's research, development, engineering, test and evaluation program (excluding that relating to Aviation Medical) including personal services and supporting costs.

	($ in 000)				
	PC&B	Other Objects	Total	Pos.	TOTAL CEILING FTE
A. FY 1986 Level	$7,044	$2,442	$9,486	138	129
B. Annualization, price level and other non-discretionary adjustments	+521	+42	+563	-	-
C. Management Savings	-73	-	-73	-	-2
D. Planned Program Decreases	-4	-941	-945	-	-
E. Recommended Program Increase	-	-	-	-	-
F. FY 1987 Proposed	$7,488	$1,543	$9,031	138	127

The estimate for FY 1987 provides for a net decrease of $455,000 below FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, Price Level and Other Non-Discretionary Adjustments $+563,00

The net increase of $563,000 includes:

1. $479,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $14,000 for annualization to provide full-year funding of 25 within-grade increases that were effective for only part of FY 1986.
3. $13,000 for 21 within-grade increases to become effective in FY 1987.
4. $48,000 for 60 merit pay increases to become effective in FY 1987.
5. $9,000 for price level increases in travel, equipment rental and supplies.

C. Management Savings	$-73,000

1. The reduction of 2 FTE and $73,000 are associated with management improvement.

D. Planned Program Decreases	$-945,000

Program decreases of $945,000 include the following:

1. A decrease of $939,000 will result from completion of one-time contracts.

2. Reduction of $6,000 for overtime and transportation of household effects.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Operations Appropriation
Administration of Airports
($000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	TOTAL CEILING FTE
1. FY 1985 Actual	$26,751	$26,751	N/A	476	455
2. FY 1986 Level	25,476	25,476	N/A	472	438
3. Annualization, price level and other non-discretionary adjustments	+415	+415	N/A	-	-
4. Management Savings	-	-	N/A	-	-
5. Planned Program Decreases	-960	-960	N/A	-	-
6. Recommended Program Increases	+1,250	+1,250	N/A	-	-
7. FY 1987 Proposed	$26,181	$26,181	N/A	472	438

OPERATIONS

Administration of Airports Program

General Justification

The Airports program covers the identification, planning, development and safety certification of the nation's system of public airports to serve the needs of civil aviation in the 50 states and territories.

Principal activities in the Airports program include participation in safety planning activities for national and international airports with other organizations (including Federal, military, state, and local agencies); administration of grants for airport improvement programs; development of engineering and safety standards; participation in transfers of Federal land and property for civil airport use; collection, processing, and dissemination of airport safety data; ensuring that public agencies receiving Federal assistance continue to operate airports for the benefit of the public in accordance with agreements; safety certification of airports; and planning and promotion of efforts to enhance airport capacity.

The Airport and Airway Improvement Act of 1982, Title V of the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97-248) as amended by Title IV of the Surface Transportation Assistance Act of 1982, authorized an airport improvement grant program for a six-year period (Fiscal Years 1982 through 1987).

The Airports program has been fully successful in administering Airport Development Aid Program/Airport Improvement Program (ADAP/AIP) funds and other activities associated with grant program administration. Many favorable accomplishments can be cited, e.g., increases in airport safety through airport certification, major improvements in environmental processing of airport projects in accordance with the requirements of the National Environmental Policy Act, improvements to the National Plan of Integrated Airport Systems, improvements in airport lighting and paving standards and practices, to name a few.

Workload and Performance Indicators

ACTIVITY GROWTH TRENDS - FYs 1984-1987 -

	Volume of Activity				Percent Change		
	1984	1985	1986	1987	1985	1986	1987
Airports in National Plan of Integated Airport Systems (NPIAS)	3,668	3,668	3,670	3,675	0.0%	0.1%	0.1%
Number of Airport Improvement Program (AIP) Grants issued	1,104	1,160	1,090	860	5.1%	-6.0%	-21.1%

OPERATIONS

Administration of Airports Program

		$000				
		PC&B	Other Objects	Total	FTP POS	TOTAL CEILING FTE
A.	FY 1986 Level	$20,343	$5,133	$25,476	472	438
B.	Annualization, price level and other non-discretionary adjustments	+384	+31	+415	-	-
C.	Management Savings	-	-	-	-	-
D.	Planned Program Decreases	-	-960	-960	-	-
E.	Recommended Program Increases	-	+1,250	+1,250	-	-
F.	FY 1987 Proposed	$20,727	$5,454	$26,181	472	438

The estimate for FY 1987 provides for a net increase over FY 1986. The changes in requirements for FY 1987 are summarized below.

B. Annualization, Price Level, and Other Non-Discretionary Adjustments $+415,000

1. $227,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $58,000 for annualization to provide full-year funding of 125 within-grade increases that were effective for only part of FY 1986.
3. $59,000 for 125 within-grade increases to become effective in FY 1987.
4. $40,000 for 66 merit pay increases to become effective in FY 1987.
5. $31,000 for inflationary and price level increases for travel, transportation of things, printing and reproduction, and supplies and materials.

D. Planned Program Decreases $-960,000

1. Planned program decreases of $960,000 will result from completion of one-time contracts. Also, some reductions will be made in base contractual efforts.

OPERATIONS

Administration of Airports Program

E. Recommended Program Increases $+1,250,000

Program increases of $1,250,000 include the items listed below. These increases are offset by a corresponding decrease in the Headquarters Administration activity.

1. $250,000 to provide managerial support to the Airport Capacity Program Office (ACPO). This support will include project management tracking, the development of program office plans, reports, and documents, and the scheduling and development of proceedings in critical meetings.
2. $1,000,000 to provide ACPO technical support. The agency has identified a need for enhancements in airport capacity. Projects will include airport capacity modeling, analysis of capacity measurement methods, and task force support for site specific studies.

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Operations - Human Resource Management
($ 000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	TOTAL Ceiling FTE
1. FY 1985 Actual	$177,757	$177,757	N/A	1,317	1,287
2. FY 1986 Level	181,480	181,480	N/A	1,295	1,235
3. Annualization, price level, and other nondiscretionary adjustments	10,395	10,395	N/A	---	---
4. Management Savings	- 1,775	- 1,775	N/A	---	- 91
5. Planned Program Decreases	---	---	N/A	---	---
6. Recommended Program Increases	15,243	15,243		---	---
7. FY 1987 Proposed	$205,343	$205,343	N/A	1,295	1,144

OPERATIONS

Human Resource Management

General Justification

The Human Resource Management activity functions in direct support of the other activities of the agency. This activity includes administration of FAA employee recruitment, development, compensation (including Federal Employees' Compensation Program payments and unemployment compensation), training, and labor-management relations programs. Key activities funded under this activity are: conduct and administration of the agency's Centralized Training program; human relations improvement activities undertaken as a result of several external recommendations and an internal survey of FAA's work force; the recruitment and placement of technical and administrative personnel; participation in labor relations activities intended to encourage greater employee involvement and participation in determining how the work is accomplished; and administration of an Airway Science Grant program intended to foster and encourage industry participation in aviation education.

($000)

Subactivity	FY 1986	FY 1987	INC/DEC
Centralized Training	$99,478	$116,783	$+ 17,305
Labor, Personnel, & Human Relations	81,020	87,563	+ 6,543
Planning, Direction, & Evaluation	982	997	+ 15
Total	$181,480	$205,343	+ 23,863
FTP Positions	1,295	1,295	----
FTE Total	1,235	1,144	--- 91

Workload and Performance Indicators

FY 1986 thru 1987 Student Enrollments
Centrally Conducted and Arranged Training

Training Program:	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Air Traffic	4,835	6,112	6,991
(Initial Qualification Courses) .	(2,550)	(2,377)	(3,487)
Airway Facilities	4,817	6,918	9,496
Aviation Standards	2,671	4,280	6,594
Airports/Logistics	596	781	965
Management/General	6,297	4,549	5,506
Total	19,216	22,640	29,552

OPERATIONS

Human Resource Management

Below is a summary table of the three Human Resources Management subactivities' dollar resources and staffing.

($000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
1. FY-1985 Actual	$113,590	$ 64,167	$177.757	1,317	1,287
2. FY-1986 Level	113,230	68,250	181,480	1,295	1,235
3. Annualization, Price-Level, and Other Nondiscretionary Increases	7,420	2,975	10,395	---	----
4. Management Savings	- 1,775	----	- 1,775	---	- 91
5. Planned Program Decreases	----	----	----	---	----
6. Recommended Program Increases	----	15,243	15,243	---	----
7. FY 1987 Proposed	$118,875	$ 86,468	$205,343	1,295	1,144

OPERATIONS

Human Resource Management

Centralized Training

This subactivity includes resources for the conduct and administration of FAA's technical and human resource management training programs.

The FAA mission requires the agency to maintain a work force of highly trained employees possessing, in most cases, unique skills for the accomplishment of a predominantly technical work program. In order to provide the required highly trained work force, the agency conducts or administers technical training courses on a centralized basis at the FAA Academy. Where there are significant concentrations of employees at other geographical locations, training facilities and instructors are provided. In addition, certain highly specialized training that is not economical to provide within the agency, such as flight training in commercial jets, is obtained on a contract basis. The agency also conducts a management and general training program and a program for improvement of instructional methods, procedures, and techniques in support of its technical work programs.

($000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$ 31,572	$ 67,906	$ 99,478	825	737
B. Annualization, price level, and other nondiscretionary adjustments	1,291	2,826	4,117	---	---
C. Management Savings	- 1,658	---	- 1,658	---	-85
D. Planned Program Decreases	---	---	---	---	---
E. Recommended Program Increases	---	14,846	14,846	---	---
F. FY 1987 Proposed	$ 31,205	$ 85,578	$116,783	825	652

OPERATIONS

Human Resource Management

Centralized Training

The major items of cost which are consolidated in the centralized training program include the following:

- Instructor staff and related services.
- Training supplies and equipment.
- Student travel and subsistence expenses.
- Planning, supervising, and administering the training programs.

The estimate for FY 1987 provides for a net increase over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, Price Level, & Other Nondiscretionary Adjustments +$4,117,000

The net increase of $4,117,000 includes:

1. $852,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $154,000 for annualization to provide full-year funding of 335 within-grade increases.
3. $130,000 for 370 within-grade increases to become effective in FY 1987.
4. $58,000 for 84 merit pay increases to become effective in FY 1987.
5. $2,423,000 for inflationary and price-level increases for travel, transportation, supplies, equipment, and other services.
6. $500,000 to fund required relocation of the FAA Management Training School. This cost is comprised of $210,000 for storage of household goods and other support services; $21,000 for employee change-of-station travel; $102,000 for transportation of property; $10,000 for printing and reproduction services; $50,000 for replacement of training equipment; $10,000 for replacement of training materials; and $97,000 for employee real estate and other change-of-station costs.

Centralized Training

C. Management Savings - $1,658,000

An A-76 management analysis and cost comparison study of FAA Academy class conduct is expected to generate savings of 85 full-time equivalent (FTE) and $1,658,000 in personnel compensation and benefits.

E. Recommended Program Increases + $14,846,000

The program increase of $14,846,000 includes the following:

1. An increase of $8,167,800 over the FY 1987 base program level of $28,109,700 in student training travel. This increase in training travel is composed of the following elements:

   a. $2,724,000 associated with an upswing in Airway Facilities maintenance technician training requirements driven by NAS Plan equipment installations. Typical systems for which training will start or continue in FY 1987 are Airport Surveillance Radar, Model 9 (ASR-9); Automated Radar Terminal System, Model 2 enhancements (ARTS-IIA); the Host Computer System; Microwave Landing System (MLS); Mode Select (MODE-S) Beacon System; Radar Digital Bright (DBRITE) Display System; Direction Finder (DF); and Flight Data Input-Output (FDIO).

   b. $2,841,000 associated with increased air traffic controller initial qualification and radar qualification training required to support the FY 1987 Air Traffic employment level. The 3,487 planned FY 1987 enrollments in air traffic controller initial qualification training represent an increase of 1,110 enrollments over the FY 1986 program and also support an increase in hiring of 500 air traffic controllers.

   c. $2,010,000 associated with increased FAA Academy course lengths for terminal (+1.4 weeks) and en route (+3.0 weeks) air traffic controller initial qualification training. The increased course lengths are a result of implementing the new "Common Screen" and "Placement" phases of the air traffic controller initial qualification training. A prime objective of these new training phases is to reduce the facility training attrition rate.

   d. $371,000 associated with recurrent flight training for 168 aviation safety inspectors ($250,000) and initial flight training for 80 of the 138 newly-hired aviation safety inspectors ($121,000). This training travel is essential in order to maintain aviation safety inspector proficiency and qualify new inspectors to perform their jobs. Assuming a level hiring rate throughout the year, approximately 80 of 138 newly hired inspectors will actually complete flight training in FY 1987.

Centralized Training

e. $221,800 associated with qualification and proficiency maintenance training for Federal air marshals. This training travel is essential in order to qualify 24 Federal air marshals hired as attrition replacements and enable 125 on-board Federal air marshals to maintain proficiency.

2. An increase of $6,678,200 over the FY 1987 base program level of $36,714,000 in other services. This increase in other services is composed of the following elements:

   a. $2,000,000 for contract instructional services associated with the increased initial qualification training required to support the FY 1987 increased Air Traffic employment level.

   b. $2,000,000 for contract instructional services associated with the air traffic controller initial qualification training increased course length resulting from implementation of the new "Common Screen" and "Placement" training phases.

   c. $2,100,000 in recurrent flight training tuition for 168 aviation safety inspectors.

   d. $320,000 in flight training tuition ($200,000) and contract training services ($120,000) for 80 of 138 newly-hired aviation safety inspectors who will actually complete flight training in FY 1987.

   e. $258,200 in tuition and contract instructional services for Federal air marshal qualification and proficiency maintenance training.

OPERATIONS

Human Resource Management

Labor, Personnel, and Human Relations

This subactivity includes resources which are concerned with the following programs: labor relations, employee relations, staffing policy, position and pay policy (including Federal Employees' Compensation Program and unemployment compensation), career management programs and systems, and human resource information systems. Also included in this subactivity are the field human resource planning and evaluation programs and the field programs designed to promote open communications and positive human relations within organizations. In these areas, individuals plan, develop, and administer programs; develop and issue policies and guides; provide advice and assistance; and evaluate programs.

($000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$ 80,838	$ 182	$ 81,020	454	484
B. Annualization, price level, and other nondiscretionary adjustments	6,114	149	6,263	---	---
C. Management Savings	- 117	---	- 117	---	- 6
D. Planned Program Decreases	----	---	----	---	---
E. Recommended Program Increases	----	397	397	---	---
F. FY 1987 Proposed	86,835	728	87,563	454	478

OPERATIONS

Human Resource Management

Labor, Personnel, and Human Relations

This estimate for FY 1987 provides a net increase over FY 1986. The changes in requirements for FY 1987 are summarized below:

.B. Annualization, Price Level, and Nondiscretionary Adjustments + $6,263,000

The net increase of $6,263,000 includes:

1. $622,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $95,000 for annualization to provide full-year funding of 191 within-grade increases that were effective for only part of FY 1986.
3. $98,000 for 204 within-grade increases to become effective in FY 1987.
4. $58,000 for 105 merit pay increases to become effective in FY 1987.
5. $149,000 for inflationary and price-level increases for travel, transportation, and other services.
6. $5,241,000 in PC&B to fund an increase in Office of Workers' Compensation Program (OWCP). Federal Employees' Compensation payments are billed by the Department of Labor (DOL) 2 years after actual disbursements. The fiscal year 1984 DOL disbursements totaling $59,314,188 will be paid during fiscal year 1986. FAA's payment into the Federal Employees' Compensation fund for fiscal year 1985 will be $64,554,995, an increase of $5,240,807. This increase is primarily attributable to the DOL cleanup drive to adjudicate and pay cases which have been pending for a long period of time. A 3.5 percent cost-of-living allowance (COLA) and escalating medical costs also contributed to the increase.

C. Management Savings - $117,000

The management initiative of curtailing management and general training and field travel is expected to generate savings of 6 full-time equivalent (FTE) and $117,000 in personnel compensation and benefits.

E. Recommended Program Increases + $397,000

The program increase of $397,000 over the FY 1987 base of $105,000 in other contractual services is for the Employee Involvement Program, which is a program planned to improve labor management relationships between Airway Facilities (AF) supervisors/managers and nonsupervisory AF employees.

OPERATIONS

Human Resource Management

Planning, Direction, and Evaluation

This subactivity includes resources at the Washington headquarters level which plan, direct, and define program objectives; formulate standards; and evaluate effectiveness in carrying out the agency Human Resource Management effort. This subactivity also includes resources in Washington headquarters that provide administrative support to the Human Resource Management effort.

($000)

	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$ 820	$ 162	$ 982	16	14
B. Annualization, price level and other nondiscretionary adjustments	15	---	15	---	---
C. Management Savings	----	---	---	---	---
D. Planned Program Decreases	----	---	---	---	---
E. Recommended Program Increases	----	---	---	---	---
F. FY 1987 Proposed	$ 835	$ 162	$ 997	16	14

OPERATIONS

Human Resource Management

Planning, Direction, and Evaluation

The estimate for FY 1987 provides for a net increase over FY 1986. The changes in requirements for FY 1987 are summarized below:

B. Annualization, Price Level, and Other Nondiscretionary Adjustments +$15,000

The net increase of $15,000 includes:

1. $8,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $3,000 for annualization to provide full-year funding of 6 within-grade increases that were effective for only part of FY 1986.
3. $2,700 for 5 within-grade increases to become effective in FY 1987.
4. $1,300 for 2 merit pay increases to become effective in FY 1987.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Operations Appropriation
Direction, Staff and Supporting Services
($000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	Total Ceiling FTE
1. FY 1985 Actual	$69,237	$69,237	N/A	1,154	1,092
2. FY 1986 Level	67,702	67,785	N/A	1,005	1,069
3. Annualization, price level, and other non-discretionary adjustments	13,360	13,277	N/A	-	-
4. Management Savings	-1,740	-1,740	N/A	-	-72
5. Planned Program Decreases	-7,295	-7,295	N/A	-	-75
6. Recommended Program Increases	-	-	N/A	-	-
7. FY 1987 Proposed	$72,027	$72,027	N/A	1,005	922

OPERATIONS

Direction, Staff and Supporting Services

General Justification

This activity funds certain administrative and housekeeping costs that support the primary programs of the agency. Included are costs for administrative payrolls, communications, administrative supplies, and other items at our Oklahoma City, Atlantic City, European and regional offices.

Included in this activity are regional and center activities for: Direction and Management, Public Affairs, International Aviation, Legal, Aviation Policy and Plans, Accounting, Budget, Civil Rights, Communications Control, Data Systems, and Management Systems. These regional and center programs are fully funded within the Operations appropriation and provide the direction and staff functions and supporting services necessary for the conduct of agency activities where such services are not otherwise provided.

	($000) PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$38,207	$29,578	$67,785	1,005	1,069
B. Annualization, price level, and other non-discretionary adjustments	+3,372	+9,905	+13,277	-	-
C. Management Savings	-2,603	+863	-1,740	-	-72
D. Planned Program Decreases	-3,135	-4,160	-7,295	-	-75
E. Recommended Program Increases	-	-	-	-	-
F. FY 1987 Proposed	$35,841	$36,186	$72,027	1,005	922

OPERATIONS

Direction, Staff and Supporting Services

Major changes in requirements for fiscal year 1987 are highlighted below:

B. Annualization, price level, and other non-discretionary adjustments $+13,277,000

The requested increase of $13,277,000 covers:

1. $11,847,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.

2. $139,000 to fund 441 within-grade increases approved in fiscal year 1986, but effective only a portion of the fiscal year.

3. $129,000 for part-year funding of 440 new within-grade increases for employees who will become eligible during fiscal year 1987.

4. $74,000 for full-year funding of 179 merit pay increases for employees who will become eligible during fiscal year 1987.

5. $1,088,000 due to inflationary increases for travel, transportation, rent, communication, utilities, printing, other services, and supplies.

C. Management Savings $ -1,740,000

A reduction of 72 FTE's and $2,603,000 is offset by a corresponding increase of $863,000 in contracts relating to A-76 studies.

D. Planned Program Decreases $ -7,295,000

1. A major contract award is anticipated by the beginning of FY 1987 for ADP programming and operations at the Aeronautical Center. This contract is expected to reduce 75 FTE's and personnel costs by $3,135,000.

2. A reduction of $4,160,000 is attributed to non-recurring IRMP costs.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Operations Appropriation
Headquarters Administration
($000)

	Dollar Resources			Personnel Resources	
	Budget Authority	Program Level	Outlays	FTP Positions	Total Ceiling FTE
1. FY 1985 Actual	$41,474	$41,674	N/A	505	541
2. FY 1986 Level	40,172	40,172	N/A	501	490
3. Annualization, price level, and other non-discretionary adjustments	+2,039	+2,039	N/A	-	-
4. Management Savings	-248	-248	N/A	-	-
5. Planned Program Decreases	-7,522	-7,522	N/A	-	-
6. Recommended Program Increases	+472	+472	N/A	+6	+6
7. FY 1987 Proposed	$34,913	$34,913	N/A	507	496

OPERATIONS

Headquarters Administration

General Justification

The Headquarters Administration activity funds the Washington Headquarters administrative functions that establish policy, direct and develop programs which provide the following administrative services to the Washington activities: Direction and Management, Communications Control, Public Affairs, Legal, Aviation Policy and Plans, Accounting, Budget, Civil Rights, International Aviation, Management Systems, and Data Systems.

	Pos.	($000) Amount
FY 1986 Enacted Appropriation........	629	$64,400
Reduction pursuant to P.L. 99-177...	...	-2,769
FY 1986 Adjusted.....................	629	61,631
Realignment of functions to Installation & Materiel...........	-3	-78
Realignment of functions to Human Resource Management................	-125	-8,416
Realignment of functions to Direction, Staff, & Supporting Services...........................	0	-12,965
Total, Headquarters Administration	501	40,172

The Headquarters Administration appropriation functions are being incorportaed into the Operations appropriation.

Three positions are being returned to Installation & Materiel where they were originally budgeted. In order to highlight the emphasis put on human relations, a Human Resource Management activity will be created to comprise the Centralized Training activity and the labor relations and personnel management subactivities from Direction, Staff and Supporting Services. This activity will now be under the responsibility of one Associate Administrator rather than two. Certain ADP and IRMP costs will be reported under Direction, Staff and Supporting Services because the actual costs for these have been associated with non-headquarters locations.

However, a separate Headquarters Administration activity is being maintained to retain the integrity of the administrative functions formerly in Headquarters Administration appropriation.

OPERATIONS

Headquarters Administration

	($000)				
	PC&B	Other Objects	Total	FTP Pos	Total Ceiling FTE
A. FY 1986 Level	$22,466	$17,706	$40,172	501	490
B. Annualization, price level, and other non-discretionary adjustments	+1,486	+553	+2,039	-	- -
C. Management Savings	-	-248	-248	-	-
D. Planned Program Decreases	-	-7,522	-7,522	-	-
E. Recommended Program Decreases	+472	-	+472	+6	+6
F. FY 1987 Proposed	$24,424	$10,489	$34,913	507	496

Major changes in requirements for fiscal year 1987 are highlighted below:

B. Annualization, price level, and other non-discretionary adjustments $+2,039,000

The requested increase of $2,039,000 covers:

1. $1,390,000 increase to avoid repetition of furloughs and early outs that are taking place in FY 1986 as a result of Gramm-Rudman reductions.
2. $57,000 to fund 185 within-grade increases approved in fiscal year 1986, but effective only a portion of the fiscal year.
3. $63,000 for part-year funding of 200 new within-grade increases for employees who will become eligible during fiscal year 1987.
4. $35,000 for full-year funding of 90 merit pay increases for employees who will become eligible during fiscal year 1987.
5. $494,000 due to inflationary increases for travel, transportation, rent, communication, utilities, printing, other services, and supplies.

C. Management Savings $ -248,000

A reduction of $248,000 is expected by contracting for services provided by agency personnel prior to A-76 studies implementation.

OPERATIONS

Headquarters Administration

D. Planned Program Decreases	$-7,522,000

1. Deferral of the Information Resource Management Plan (IRMP) implementation efforts will generate a reduction of $2,772,000.

2. A reduction of $1,250,000 is being transferred from the Aviation Policy and International resources to the Airport Capacity Program Office (ACPO) to provide managerial and technical support.

3. In keeping with the spirit of restraining costs and reducing the government budget deficit, $3,500,000 in deferrals and reductions are planned in many other areas such as the following: Library Services, and the National Airspace Review Enhancement (NARE).

E. Recommended Program Increases	$ +472,000

An associate administrator's office has been established for Air Traffic. All other associate offices are funded under Headquarters Administration. To make Air Traffic consistent with other offices, six positions and $472,000 are being transferred from Air Traffic to this activity. This cost includes salary, benefits, overtime, awards, travel, supplies and other administrative type costs.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES, ENGINEERING AND DEVELOPMENT
Program and Financing (in thousands of dollars)

Identification code 69-1303-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
00.01 Engineering and development.....	61	......	.....
00.02 Facilities and equipment........	450	2,382	.....
10.00 Total obligations..............	511	2,383	.....
Financing:			
21.40 Unobligated balance available, start of year..................	-2,893	-2,382	.....
24.40 Unobligated balance available, end of year..................	2,382	......	.....
39.00 Budget authority..............	.....	......	.....
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	511	2,382	.....
72.40 Obligated balance, start of year.........................	5,383	2,306	.....
74.40 Obligated balance, end of year.........................	-2,306	......	.....
90.00 Outlays.......................	3,588	4,688	.....

FED-1

FACILITIES, ENGINEERING AND DEVELOPMENT

PROGRAM AND PERFORMANCE

Facilities, engineering and development activities are now appropriated from the airport and airway trust fund in accord with section 506(b) of the Airport and Airway Improvement Act of 1982.

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES, ENGINEERING AND DEVELOPMENT
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-1303-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
11.8 Special personal services payment	35	.....	.....
25.0 Other services	290	2,382	.....
26.0 Supplies and materials	56	.....	.....
31.0 Equipment	132	.....	.....
99.9 Total obligations	511	2,382	.....

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DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Operation and Maintenance, Metropolitan Washington Airports

For expenses incident to the care, operation, maintenance, improvement, and protection of the federally-owned civil airports in the vicinity of the District of Columbia, including purchase of [eight] six passenger motor vehicles for police use, for replacement only; for purchase, cleaning, and repair of uniforms; and arms and ammunition, [$34,100,000:] $34,600,000: Provided, That there may be credited to this appropriation funds received from air carriers, concessionaires, and non-federal tenants sufficient to cover utility and fuel costs which are in excess of $6,682,000: Provided further, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities, or private sources, for expenses incurred in the maintenance and operation of the federally-owned civil airports.

(Department of Transportation and Related Agencies Appropriation Act, 1986, as included in Public Law 99-190.)

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Program and Financing (in thousands of dollars)

Identification code 69-1332-0-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
Direct program:			
Operating expenses:			
1. Washington National Airport....	16,631	16,758	16,972
2. Wash. Dulles Int'l. Airport....	17,333	17,223	17,414
Total operating expenses.......	33,964	33,981	34,386
Capital investment:			
1. Washington National Airport....	1,160	48	139
2. Wash. Dulles Int'l Airport.....	1,241	71	75
Total capital investment.......	2,401	119	214
Total direct program.........	36,365	34,100	34,600
Reimbursable program................	1,413	1,475	1,537
10.00 Total obligations............	37,778	35,575	36,137
Financing:			
Offsetting collections from:			
11.00 Federal funds..................	-1,413	-1,475	-1,537
22.40 Unobligated balance transferred, net..............	-505	.....	.....
25.00 Unobligated balance lapsing.....	72	.....	.....
40.00 **Budget authority (appropriation)..............**	**35,932**	**34,100**	**34,600**

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Financing and Outlays (in thousands of dollars)

Identification code 69-1332-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	36,365	34,100	34,600
72.40 Obligated balance, start of year......................	5,707	5,773	5,943
74.40 Obligated balance, end of year......................	-5,773	-5,943	-6,343
77.00 Adjustments in expired accounts.....................	143	.....	.....
90.00 Outlays..................	36,442	33,930	34,200
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS			
Enacted/requested:			
Budget authority..................	35,932	34,100	34,600
Outlays............................	36,442	33,930	34,200
Reduction pursuant to P.L. 99-177:			
Budget authority..................	.....	-1,466	.....
Outlays............................	.....	-1,245	-188
Total:			
Budget authority..................	35,932	32,634	34,600
Outlays............................	36,442	32,685	34,012

OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS

Program and Performance

This appropriation finances maintenance, operations, management, and capital investment costs for equipment and minor facility projects at the federally owned Washington National and Dulles International Airports which serve the Metropolitan Washington area.

The operation of the airports is conducted on a commercial basis with revenues derived from landing fees, concession activity, and lease arrangements being deposited as receipts in the general fund of the Treasury. The direct operating costs and capital investment are financed by direct appropriation.

In 1987, Washington National is expected to produce an operating profit of $18.4 million and Washington Dulles International an operating profit of $4.6 million, resulting in a combined operating profit of $23.0 million. The deduction of $8.7 million in depreciation and interest for the two airports results in a net profit of $14.3 million.

The rate structures and concession arrangements are established so as to assure the recovery of operating costs, interest expenses, and an appropriate return on the Government's investment during the useful life of the airports.

The following table reflects activity at the airports:

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Washington National Airport:			
Passengers (thousands)	14,906	15,204	15,508
Air Operations (thousands)	330	340	350
Air Cargo (million pounds)	143	148	154
Freight	(42)	(43)	(44)
Mail	(101)	(105)	(110)
Wash. Dulles Int'l Airport:			
Passengers (thousands)	4,510	5,412	6,765
Domestic	(3,960)	(4,662)	(5,915)
International	(550)	(750)	(850)
Air Operations (thousands)	198	220	240
Air Cargo (million pounds)	143	155	168
Freight	(99)	(109)	(120)
Mail	(44)	(46)	(48)

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Object Classification (in thousands of dollars)

Identification code 69-1332-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent.............	15,895	17,323	17,009
11.3 Other than full-time permanent...	504	229	229
11.5 Other personnel compensation.....	2,396	1,920	2,342
11.9 Total personnel compensation...	18,795	19,472	19,580
Personnel benefits:			
12.1 Civilian.........................	2,116	2,315	2,382
13.0 Benefits for former personnel....	9	.....	.....
21.0 Travel and transportation of persons........................	182	142	148
22.0 Transportation of things.........	23	15	15
23.2 Rental payments to others........	200	209	218
23.3 Communications, utilities and miscellaneous charges..........	5,948	5,647	5,659
24.0 Printing and reproduction........	10	31	31
25.0 Other services...................	3,650	3,112	3,328
26.0 Supplies and materials...........	3,310	3,032	3,103
31.0 Equipment........................	1,342	119	130
32.0 Lands and structures.............	774	.....	.....
42.0 Insurance claims and indemnities....................	6	6	6
99.0 Subtotal, direct obligations...	36,365	34,100	34,600
[illegible]	[illegible]	[illegible]	[illegible]

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Object Classification (in thousands of dollars)

Identification code 69-1332-0-1-402	1985 actual	1986 estimate	1987 estimate
Reimbursable obligations:			
21.0 Travel and transportation of persons	.....	9	9
23.3 Comm., util. and misc. charges	555	673	701
26.0 Supplies and materials	858	654	682
31.0 Equipment	.....	139	145
99.0 Subtotal, reimbursable obligations	1,413	1,475	1,537
99.9 Total obligations	37,778	35,575	36,137

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Personnel Summary

Identification code 69-1332-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Total number of full-time permanent positions............................	733	707	707
Total compensable work-years:			
Full-time equivalent employment......	675	717	700
Full-time equivalent of overtime and holiday hours..................	92	69	69

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-1332-6-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations	.....	-1,466	.....
Financing:			
40.00 **Budget authority (appropriation)**	.....	-1,466	.....
Relation of obligations to outlays:			
71.00 Obligations incurred, net	.....	-1,466	.....
72.40 Obligated balance, start of year	.....	.....	-221
74.40 Obligated balance, end of year	.....	221	33
90.00 Outlays	.....	-1,245	-188

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

FEDERAL AVIATION ADMINISTRATION

Appropriation: Operation and Maintenance, Metropolitan Washington Airports

Budget Year: 1987

Summary of Appropriation Requirements

FY 1986 Enacted	$34,100,000
FY 1986 After Sequestering	32,634,000

Net difference - 1987 over 1986:

Activity	1986 Enacted	1986 After Sequestering	1987 Estimate	Difference Increase (+) Decrease (-)
Washington National Airport	$16,806,000	$16,083,000	$17,111,000	$+1,028,000
Wash. Dulles Int'l Airport	17,294,000	16,551,000	17,489,000	+938,000
Total..............	$34,100,000	$32,634,000	$34,600,000	+1,966,000
Total estimate of appropriation, 1987				$34,600,000

Once more in FY 1987, it is proposed that revenues be used to finance airport utility costs where they exceed budgeted amount.

OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS

General Justification

Activities financed under this appropriation include the operation, maintenance, and protection of Washington National Airport and Washington Dulles International Airport. Investments in operating equipment and minor plant improvement projects are financed under this appropriation. The fiscal year 1987 appropriation request of $34,600,000, $1,966,000 more than the fiscal year 1986 level after sequestering, will provide $34,386,000 for operating requirements and $214,000 for capital requirements.

The Metropolitan Washington Airports are operated on a self-sustaining basis in a manner comparable with other major domestic airports. Accordingly, this policy seeks to recover all out-of-pocket operating expenses plus interest and depreciation through concession revenues, user charges, and rentals.

Program adjustments which result in a fiscal year 1987 funding level of $1,966,000 above fiscal year 1986 as sequestered are summarized in subsequent pages.

	Positions	Amount
Operating Requirements		
Mandatory pay adjustments		$ +175,000
Other cost adjustments	0	+1,696,000
Subtotal	0	$ 1,871,000
Capital Requirements	—	+95,000
Total	0	$+1,966,000

METROPOLITAN WASHINGTON AIRPORTS

Operation and Maintenance

Program Justification

Requirements

	1986 After Sequestering		1987 Estimate		Difference	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Washington National Airport						
Operating Requirements	353	$16,035,000	353	$16,972,000	0	$ +937,000
Capital Requirements	—	48,000	—	139,000	—	+91,000
Total	353	$16,083,000	353	$17,111,000	0	$+1,028,000
Washington Dulles Int'l Airport						
Operating Requirements	354	$16,480,000	354	$17,414,000	0	$ +934,000
Capital Requirements	—	71,000	—	75,000	—	+4,000
Total	354	$16,551,000	354	$17,489,000	0	$ +938,000
Total O&M Program	707	$32,634,000	707	$34,600,000	0	$+1,966,000

Washington National Airport

Operating Requirements

	1986 After Sequestering	1987 Estimate	Difference
Permanent positions	353	353	0
Personnel Compensation and Benefits	$10,155,000	$10,748,000	$+593,000
Other Costs	5,880,000	6,224,000	+344,000
Total	$16,035,000	$16,972,000	$+937,000

Funding needed to cover Washington National Airport operating requirements will increase by $937,000 in FY 1987.

Mandatory Pay Adjustments $+95,000

The amount of $95,000 is requested for mandatory pay adjustments to cover the following:

1. $23,000 for 65 new within-grade salary increases effective in fiscal year 1987.
2. $27,500 to fully fund 72 within-grade salary increases which were effective for only a portion of fiscal year 1986.
3. $11,900 for full-year cost of 13 merit pay WIG equivalents.
4. $17,200 for increased FICA and medicare costs effective for only a portion of fiscal year 1986.
5. $15,400 for increased FICA and medicare costs in fiscal year 1987.

Other Cost Adjustments $+842,000

1. An increase of $14,000 for travel, communications and equipment rentals is required to offset the impact of anticipated rate increases.
2. An increase of $77,000 for recurring services reflecting the impact of inflation.
3. An increase of $28,000 in supplies and materials reflecting the impact of inflation.
4. An increase of $723,000 to bring the police and firefighter workforce to an adequate on board employment level, and for preventive maintenance projects that have been deferred in order to accommodate the FY 1986 Gramm-Rudman reductions.

Capital Requirements

	1986 Estimate	1987 Estimate	Difference
Amount	$48,000	$139,000	$+91,000

The amount requested finances:

Capital Improvement Projects $84,000

Funding is requested for one capital improvement projects in FY 1987 to improve the terminal heating and air conditioning filtering systems.

Capitalized Equipment $55,000

Equipment requested in FY 1987 is limited to replacement of two police cruisers and purchase of miscellaneous small items.

Washington Dulles International Airport

Operating Requirements

	1986 After Sequestering	1987 Estimate	Difference
Permanent positions	354	354	0
Personnel Compensation and Benefits	$10,621,000	$11,214,000	$ +593,000
Other Costs	5,859,000	6,200,000	+341,000
Total	$16,480,000	$17,414,000	$ +934,000

Funding needed to cover Washington Dulles International Airport operating requirements will increase by $934,000 in FY 1987.

Mandatory Pay Adjustments $+80,000

The amount of $80,000 is requested for mandatory pay adjustments to cover the following:

1. $20,300 for 49 new within-grade salary increases effective for only a portion of fiscal year 1987.
2. $22,800 to fully fund 54 within-grade salary increases which were effective for only a portion of fiscal year 1986.
3. $11,300 for full-year cost of 13 merit pay WIG equivalents.
4. $13,900 for increased FICA and medicare costs effective for only a portion of fiscal year 1986.
5. $11,700 for increased FICA and medicare costs in fiscal year 1987.

Other Cost Adjustments $+854,000

1. An increase of $13,000 for travel, printing, communications and equipment rentals is required to offset the impact of anticipated rate increases.
2. An increase of $54,000 for recurring services reflecting the impact of inflation.
3. An increase of $44,000 in supplies and materials reflecting the impact of inflation.
4. An increase of $743,000 to bring the police, firefighter, and mobile lounge workforce to an adequate on board employment level, and for preventive maintenance projects that have been deferred in order to accommodate the FY 1986 Gramm-Rudman reductions.

Capital Requirements

	1986 Estimate	1987 Estimate	Difference
Amount	$71,000	$75,000	$+4,000

The amount requested finances:

Capitalized Equipment	$75,000

Equipment requested in FY 1987 is limited to replacement of four police cruisers and purchase of miscellaneous small items.

SUMMARY OF O&M PROGRAM REQUIREMENTS BY ACTIVITY

	1986 After Sequestering		1987 Estimate		Difference	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Washington National Airport						
Operating Expenses:						
Washington National Airport	306	$14,027,000	306	$14,846,000		$ +819,000
Consolidated Functions	47	2,008,000	47	2,126,000		+118,000
Total Operating Expenses	353	$16,035,000	353	$16,972,000	0	$ +937,000
Capital Investment:						
Washington National Airport		$ 44,000		$ 135,000		$ +91,000
Consolidated Functions		4,000		4,000		0
Total Capital Investment	—	$ 48,000	—	$ 139,000	—	$ +91,000
Total Washington National Airport	353	$16,083,000	353	$17,111,000	0	$+1,028,000
Washington Dulles Int'l Airport						
Operating Expenses:						
Wash. Dulles Int'l Airport	307	$14,472,000	307	$15,288,000		$ +816,000
Consolidated Functions	47	2,008,000	47	2,126,000		+118,000
Total Operating Expenses	354	$16,480,000	354	$17,414,000	0	$ +934,000
Capital Investment:						
Wash. Dulles Int'l Airport		$ 67,000		$ 71,000		$ +4,000
Consolidated Functions		4,000		4,000		0
Total Capital Investment	—	$ 71,000	—	$ 75,000	—	$ +4,000
Total Wash. Dulles Int'l Airport	354	$16,551,000	354	$17,489,000	0	$ +938,000
Total O&M Program	707	$32,634,000	707	$34,600,000	0	$+1,966,000

FINANCIAL RESULTS OF OPERATIONS - FISCAL YEAR 1985 - 1987

(in thousands of dollars)

	Washington National Airport	Washington Dulles Int'l Airport	Total
Fiscal Year 1985 (Actual)			
Revenues	$34,165	$19,867	$54,032
Less: Operating Expense	-17,646	-18,277	-35,923
Operating profit or (loss)	$16,519	$ 1,590	$18,109
Less: Depreciation and Interest	-2,746	-4,700	-7,447
Net program profit or (loss)	$13,773	$(3,110)	$10,663
Fiscal Year 1986 (Estimate)			
Revenues	$35,361	$21,089	$56,450
Less: Operating Expense	-17,625	-17,831	-35,456
Operating profit or (loss)	$17,736	$ 3,258	$20,994
Less: Depreciation and Interest	-2,966	-5,076	-8,042
Net program profit or (loss)	$14,770	$(1,818)	$12,952
Fiscal Year 1987 (Estimate)			
Revenues	$36,604	$22,955	$59,559
Less: Operating Expense	-18,197	-18,384	-36,581
Operating profit or (loss)	$18,407	$ 4,571	$22,978
Less: Depreciation and Interest	-3,203	-5,482	-8,685
Net program profit or (loss)	$15,204	$ (911)	$14,293

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Construction, Metropolitan Washington Airports

For necessary expenses for construction at the federally-owned civil airports in the vicinity of the District of Columbia, $7,000,000, to remain available until September 30, [1988] 1989.

(Department of Transportation and Related Agencies Appropriation Act, 1986, as included in Public Law 99-190.)

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS
Program and Financing (in thousands of dollars)

Identification code 69-1333-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
1. Washington National Airport....	5,922	11,551	6,050
2. Wash. Dulles Int'l Airport......	4,831	1,745	950
10.00 Total obligations..........	10,753	13,296	7,000
Financing:			
21.40 Unobligated balance available, start of year................	-7,460	-6,296	.....
22.40 Unobligated balance transferred, net...............	910	.....	.....
24.40 Unobligated balance available, end of year...................	6,296	.....	.....
25.00 Unobligated balance lapsing......	1	.....	.....
39.00 **Budget authority**...........	**10,500**	**7,000**	**7,000**
Budget Authority:			
40.00 Appropriation..................	13,000	7,000	7,000
41.00 Transferred to other accounts...	-2,500	.....	.....
43.00 **Appropriation (adjusted)**...	**10,500**	**7,000**	**7,000**
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	10,753	13,296	7,000
72.40 Obligated balance, start of year	16,258	9,256	5,052
74.40 Obligated balance, end of year..	-9,256	-5,052	-5,852
77.00 Adjustments in expired accounts.	-107	.....	.....
90.00 Outlays.....	17,648	17,500	6,200
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS (in thousands of dollars)

Identification code 69-1333-0-1-402	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority..................	10,500	7,000	7,000
Outlays............................	17,648	17,500	6,200
Reduction pursuant to P.L. 99-177:			
Budget authority..................	.....	-301	.....
Outlays............................	.....	-130	-60
Total:			
Budget authority..................	10,500	6,699	7,000
Outlays............................	17,648	17,370	6,140

CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS

PROGRAM AND PERFORMANCE

This appropriation finances construction of major improvements and expansion of facilities at Washington National Airport and Washington Dulles International Airport. Projects are undertaken whenever necessary to ensure the capability of these airports to adequately, safely, and efficiently meet air travel needs of the public.

At Washington National Airport, funds are requested to rehabilitate airfield facilities and utility systems.

At Washington Dulles International Airport, funds are included to rehabilitate airfield facilities and utility systems.

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS
Object Classification (in thousands of dollars)

Identification code 69-1333-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
FEDERAL AVIATION ADMINISTRATION			
23.3 Communications, utilities and miscellaneous charges..........	46	.....	.....
32.0 Lands and structures.............	8,275	12,121	7,000
99.0 Subtotal obligations, Federal Aviation Administration.....	8,321	12,121	7,000
ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION			
32.0 Lands and structures	2,432	1,175	.....
99.0 Subtotal obligations, Federal Highway Administration......	2,432	1,175	.....
99.9 Total obligations.............	10,753	13,296	7,000
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-1333-6-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations............	.....	-301	.....
Financing:			
40.00 Budget authority (appropriation)..............	.....	-301	.....
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	.....	-301	.....
72.40 Obligated balance, start of year......................	.....	.....	-171
74.40 Obligated balance, end of year......................	.....	171	111
90.00 Outlays....................	.....	-130	-60
These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).			
(Memo [illegible])	(Memo [illegible])	(Memo [illegible])	(Memo [illegible])

FEDERAL AVIATION ADMINISTRATION

Appropriation: Construction, Metropolitan Washington Airports

Budget Year: 1987

Summary of Appropriation Requirements

FY 1986 Enacted	$ 7,000,000
FY 1986 After Sequestering	6,699,000

Net difference - 1987 over 1986:

Activity	1986 Enacted	1986 After Sequestering	1987 Estimate	Difference Increase (+) Decrease (-)
Washington National Airport	$4,800,000	$4,594,000	$6,050,000	$+1,456,000
Wash. Dulles Int'l Airport	2,200,000	2,105,000	950,000	-1,155,000
Total..............	$7,000,000	$6,699,000	$7,000,000	+301,000
Total estimate of appropriation, 1987				$ 7,000,000

General Justification

The projects in the construction program for Washington National and Washington Dulles International Airports for 1987 are designed to accomplish the following objective:

1. Rehabilitate Existing Facilities - Existing facilities require periodic rehabilitation due to deterioration from age and usage. At both National and Dulles, funds are programmed to rehabilitate airfield facilities and utility systems.

These items are discussed in detail on the following pages.

CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS
FY 1987 CONSTRUCTION PROJECTS

WASHINGTON NATIONAL AIRPORT		
Rehabilitate Airfield Facilities		$4,800,000
Rehabilitate Gate Positions, Main Terminal	$1,100,000	
Rehabilitate Apron, North Terminal	2,200,000	
Repair Airfield Pavement	1,500,000	
Utility Systems		1,250,000
Replace/Repair Boilers, Steam Plant	475,000	
Replace Electric Feeder Cables	275,000	
Replace PCB-Filled Transformers	500,000	
Subtotal, Washington National Airport		$6,050,000
WASHINGTON DULLES INTERNATIONAL AIRPORT		
Utility Systems		450,000
Replace Feeders/Edge Lighting	450,000	
Rehabilitate Airfield Facilities		500,000
Replace Airfield Pavement Panels	500,000	
Subtotal, Washington Dulles International Airport		$ 950,000
TOTAL, METROPOLITAN WASHINGTON AIRPORTS		$7,000,000

CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS

Program Justification

Washington National Airport - $6,050,000

Rehabilitate Airfield Facilities $4,800,000

Rehabilitate Gate Positions, Main Terminal, $1,100,000. Concrete pads support the concentrated wheel loads of aircraft when they are parked at gate positions. Some of the concrete pads at the gate positions for the Main Terminal are showing signs of failure from age and heavy usage. The approach edge of the pad is a significant problem area since the roll-on/roll-off action of the heavy aircraft wheels causes deflection of the pad and deformation of the adjacent asphalt. Continued pumping action by the wheels result in further loss of support and progressive failure ensues. In some cases the pads are too small for the aircraft that regularly park on them which causes damage to the asphalt apron.

This is the first increment of a four-phase program to rehabilitate the Main Terminal concrete gate pads and will provide design and construction for five pads. The priority for replacement will be determined based on operational requirements, pad conditions, and the ongoing work in contiguous areas.

Rehabilitate Apron, North Terminal, $2,200,000. The pavement on the north side of the North Terminal has deteriorated, is uneven, and does not drain properly. The concrete pads at the contiguous gates (30 and 37 thru 41) also require reconstruction to correct elevations and configuration. This project will rehabilitate the apron and concrete gate pads at the North Terminal.

Repair Airfield Pavement, $1,500,000. This project will provide the following necessary repairs to the airfield pavement: regrading both asphalt and turf, and provision of drainage near the intersection of Taxiway H with Runway 3-21; large-scale asphalt repairs in the ramp area at the north and south hangars to prevent landing gear or prop damage caused by striking pot holes; correction of miscellaneous deficiencies in drainage, surface condition, and joint sealant failures; and removal and replacement of the old concrete on the taxiway near Gate 3.

Utility Systems $1,250,000

Replace/Repair Boilers, Steam Plant, $475,000. The foundation is settling under Boiler #1, installed in 1954, causing structural distress to the boiler. A consultant has evaluated the damage and has indicated that the problem can be corrected by repairing the foundation and boiler at a lesser cost than would be required to replace the boiler. This project will replace the boiler's foundation and provide necessary rehabilitation to the boiler.

Replace Electric Feeder Cables, $275,000. Electricity within the airport is carried by underground high-voltage cables to various load centers. Most of the cables, except for recent replacements, are approximately forty years old and have deteriorated due to age and exposure to water. Cable replacement after a failure is costly and can result in extended power outages.

This project is the second increment of a three-increment program to replace seven of the feeder cables which have a high failure potential and serve critical load centers. This increment will replace feeder #9, Hangar 5 substation; and feeder #11, which serves the North Hangars. The first increment was funded in FY 1986.

Replace PCB-Filled Transformers, $500,000. In a Notice of Proposed Rule Making, the Environmental Protection Agency proposed that electrical transformers which contain PCB and are located within, or near, buildings be subject to certain safety standards. Specifically, additional electrical protection devices would be required and the transformers would be isolated from the building ventilation equipment to prevent smoke contamination from fires involving PCB. This project is the first increment of a five-phase program to replace transformers and network protectors on the transformers, and will replace the equipment in the north and south vaults in the Main Terminal.

Washington Dulles International Airport - $950,000

Utility Systems $450,000

Replace Feeders/Edge Lighting, $450,000. The electrical circuits for the edge lighting system which serves Runway 1L-19R and the adjacent taxiways have been in place approximately twenty-two years. The cables and transformers for the individual lighting fixtures are deteriorating and are no longer reliable. If not replaced soon, a failure in the system is likely to occur.

The feeder cables which supply electrical power to the West Building Group are also deteriorating and require replacement. The cables are twenty-two years old and periodically are out of service for emergency repairs. The cables have well exceeded normal life expectancy.

This project will replace the feeder cables to the West Building Group and the runway and taxiway lighting circuits on Runway 1L-19R. Included with the latter will be the replacement of the transformers for individual lighting fixtures.

Rehabilitate Airfield Facilities $500,000

Replace Airfield Pavement Panels, $500,000. This project is part of a continuing maintenance program to replace damaged concrete pavement panels in the airfield pavement system at Dulles International Airport. The pavement system, constructed between 1959 and 1962, includes the runways, taxiways, aircraft aprons, and mobile lounge aprons and roads. It consists of about 1,500,000 square yards of concrete. Over the years, some of the airfield pavement has experienced distress and failure and has been replaced. Additional panels continue to show signs of failure. A monitoring program has been established to permit the airport to remain continuously aware of the pavement condition. This project will replace approximately 30 panels as designated by the monitoring program.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Aircraft Purchase Loan Guarantee

The Secretary of Transportation may hereafter issue notes or other obligations to the Secretary of the Treasury, in such forms and denominations, bearing such maturities, and subject to such terms and conditions as the Secretary of the Treasury may prescribe. Such obligations may be issued to pay any necessary expenses required pursuant to any guarantee issued under the Act of September 7, 1957, Public Law 85-307, as amended (49 U.S.C. 1324 note). The aggregate amount of such obligations during fiscal year [1986] 1987 shall not exceed [$75,000,000] $125,000,000. Such obligations shall be redeemed by the Secretary from appropriations authorized by this section. The Secretary of the Treasury shall purchase any such obligations, and for such purpose he may use as a public debt transaction the proceeds from the sale of any securities issued under the Second Liberty Bond Act, as now or hereafter in force. The purposes for which securities may be issued under such Act are extended to include any purchase of notes or other obligations issued under the subsection. The Secretary of the Treasury may sell any such obligations at such times and price and upon such terms and conditions as he shall determine in his discretion. All purchases, redemptions, and sales of such obligations by such Secretary shall be treated as public debt transactions of the United States.

(Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM
Program and Financing (in thousands of dollars)

Identification code 69-1399-0-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations (object class 33.0)..........	13,985	195	....
Financing:			
21.40 Unobligated balance available, start of year................	-664	....	....
47.00 Authority to borrow (97 Stat. 339)........................	13,321	195	....
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	13,985	195	....
72.47 Obligated balance, start of year	3	118	....
74.47 Obligated balance, end of year.	-118	....	....
90.00 Outlays......................	13,870	313	....
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS			
Enacted/requested:			
Budget authority....................	13,321	195	....
Outlays.............................	13,870	313	....
Supplemental under existing legislation:			
Budget authority....................	....	1,300	....
Outlays.............................	....	1,300	....
Total:			
Budget authority....................	13,321	1,495	....
Outlays.............................	13,870	1,613	....
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STANDARD FORM 300
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM
Status of Direct Loans (in thousands of dollars)

Identification code 69-1399-0-1-402	1985 actual	1986 estimate	1987 estimate
Position with respect to appropriations act limitations on obligations:			
1111 Limitation on direct loans to the public	....	....	....
Obligations exempt from limitation:			
1132 Defaulted guaranteed loan claims	13,264	....	....
1150 Total direct loan obligations.	13,264	....	....
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year	89,134	68,714	60,946
1232 Disbursements: Disbursements for guaranteed loan claims	13,264	....	....
1264 Adjustment: Other adjustments, net	-33,684	-7,768	-5,680
1290 Outstanding, end of year	68,714	60,946	55,266
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM
Status of Guaranteed Loans (in thousands of dollars)

Identification code 69-1399-0-1-402	1985 actual	1986 estimate	1987 estimate
Cumulative balance of guaranteed loans outstanding:			
2210 Outstanding, start of year......	493,331	406,733	356,746
2251 Repayments: Repayments and prepayments......................	-75,382	-49,987	-46,111
2261 Adjustments: Termination for default that result in direct loans.........................	-11,216	....	....
2290 Outstanding, end of year........	406,733	356,746	310,635
MEMORANDUM			
2299 U.S. contingent liability for guaranteed loans outstanding, end of year.....................	366,060	321,071	279,572
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AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM

GENERAL STATEMENT

This program is continuing only for the purpose of making payments to private lenders upon default of loans by air carriers.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Aviation Insurance Revolving Fund

The Secretary of Transportation is hereby authorized to make such expenditures and investments, within the limits of funds available pursuant to section 1306 of the Act of August 23, 1958, as amended (49 U.S.C. 1536), and in accordance with section 104 of the Government Corporation Control Act, as amended (31 U.S.C. 9104), as may be necessary in carrying out the program set forth in the budget for the current fiscal year for aviation insurance activities under said Act.

(Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVIATION INSURANCE REVOLVING FUND
Program and Financing (in thousands of dollars)

Identification code 69-4120-0-3-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations	91	147	149
Financing:			
Offsetting collections from:			
11.00 Federal funds	-2,830	-3,208	-3,307
14.00 Non-Federal sources	-10	-10	-10
Unobligated balance available, start of year:			
21.98 Fund balance	-172	-186	-172
21.98 U.S. securities (par)	-30,875	-33,610	-36,695
Unobligated balance available, end of year:			
24.98 Fund balance	186	172	172
24.98 U.S. securities (par)	33,610	36,695	39,863
39.00 Budget authority	....	....	....
Relation of obligations to outlays:			
71.00 Obligations incurred, net	-2,750	-3,071	-3,168
72.98 Obligated balance, start of year: Fund balance	16	10	10
74.98 Obligated balance, end of year: Fund balance	-10	-10	-10
90.00 Outlays	-2,744	-3,071	-3,168
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS			
Enacted/requested:			
Budget authority	....	....	....
Outlays	-2,744	-3,071	-3,168
Reduction pursuant to PL 99-177:			
Budget authority	....	....	....
Outlays	....	-4	....
Total:			
Budget authority	....	....	....
Outlays	-2,744	-3,075	-3,168

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AVIATION INSURANCE REVOLVING FUND

PROGRAM AND PERFORMANCE

The fund currently provides direct support for the aviation insurance program authorized under title XIII of the Federal Aviation Act.

Income to the fund is derived from premium deposits for premium insurance coverage issued, income from authorized investments, and binder fees for nonpremium coverage issued. The binders provide aviation insurance coverage for U.S. air carrier aircraft used in connection with certain Government contract operations entered into by the Department of Defense (DOD) and Department of State (DOS). There exist indemnity agreements under which the DOD and DOS agree to reimburse the Department of Transportation for all payments on account of losses to air carriers sustaining damage to their aircraft by an insured peril with respect to the aircraft operating under contract to DOD and DOS.

Administrative costs are paid from the Aviation Insurance Revolving Fund, into which are credited receipts from premiums, salvage, and interest on assets of the fund (49 U.S.C. 1536).

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVIATION INSURANCE REVOLVING FUND
Revenue and Expense (in thousands of dollars)

Identification code 69-4120-0-3-402	1985 actual	1986 estimate	1987 estimate
Administrative expenses:			
Revenue	2,841	3,218	3,317
Expense	-91	-147	-149
Net operating income	2,750	3,071	3,168

Financial Condition (in thousands of dollars)

	1984 actual	1985 actual	1986 estimate	1987 estimate
Assets:				
Fund balance with Treasury	188	197	183	183
U.S. securities (par)	30,875	33,610	36,695	39,863
Accounts receivable	0	0	0	0
Total	31,063	33,807	36,878	40,046
Liabilities:				
Accounts payable	16	10	10	10
Government equity:				
Retained earnings	31,047	33,797	36,868	40,036
Analysis of changes in Government equity:				
Retained earnings:				
Start of year		31,047	33,797	36,868
Net income for year		2,750	3,071	3,168
Total Government equity (end of year).		33,797	36,868	40,036
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVIATION INSURANCE REVOLVING FUND
Object Classification (in thousands of dollars)

Identification code 69-4120-0-3-402	1985 actual	1986 estimate	1987 estimate
11.1 Personnel compensation: Full-time permanent............	78	83	85
12.1 Personnel benefits: Civilian......................	7	9	9
21.0 Travel and transportation of persons........................	....	2	2
25.0 Other services..................	....	2	2
26.0 Supplies and materials..........	6	1	1
42.0 Insurance claims and indemnities	....	50	50
99.9 Total obligations.............	91	147	149
Personnel Summary			
Total number of full-time permanent positions............................	2	2	2
Total compensable work years: Full-time equivalent employment......	2	2	2
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STANDARD FORM 300
July 1964, Bureau of the Budget
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AVIATION INSURANCE REVOLVING FUND
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-4120-6-1-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations.............	....	-4	....
Financing:			
21.98 Unobligated balance available, start of year: U.S. securities (par).........................	....	....	-4
24.98 Unobligated balance available end of year: U.S. securities (par).........................	....	4	4
39.00 Budget authority...............	....	....	....
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	....	-4	....
90.00 Outlays.....................	....	-4	....
These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).			
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STANDARD FORM 300
July 1964, Bureau of the Budget
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT AND AIRWAY TRUST FUND
Amounts Available for Appropriation (in thousands of dollars)

Identification code	1985 actual	1986 estimate	1987 estimate
Unappropriated balance, start of year..............................	4,565,251	4,595,724	6,033,875
Revenue............................	3,597,636	3,716,900	3,246,900
Total available for appropriation..	8,162,887	8,312,624	9,280,775
Appropriations:			
Facilities and equipment............	-1,358,000	-993,000	-825,000
Research, engineering and development	-265,000	-190,000	-134,500
Grants-in-aid for airports: Appropriation to liquidate contract authority.............	-810,000	-693,000	-800,000
Trust fund share of FAA operations..	-1,110,000	-446,000	-276,750
Proposed legislation: Operations...	...	...	-1,823,085
Department of Commerce: National Oceanographic and Atmospheric Administration, Operations, Research and Facilities......................	-27,000	-28,000	-77,500
Reduction pursuant to P.L. 99-177	...	71,251	...
Total appropriations.............	-3,570,000	-2,278,749	-3,936,835
Adjustments in expired accounts, return to unappropriated receipts...	2,837	...	...
Unappropriated balance, end of year.	4,595,724	6,033,875	5,343,940
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT AND AIRWAY TRUST FUND

The Tax Equity and Fiscal Responsibility Act of 1982 (26 U.S.C. 9502) provides for the revenues received in the Treasury from eight percent passenger ticket tax and certain other taxes paid by airport and airway users to be transferred from the general fund of the Treasury to the Airport and Airway trust fund. The Secretary of the Treasury estimates the amount to be so transferred. In turn, appropriations are authorized from this fund to meet obligations for airport planning and development and noise compatibility planning and programs; facilities and equipment; research, engineering and development; and a portion of operations.

The status of the fund is as follows (in thousands of dollars):

	1985 actual	1986 estimate	1987 estimate
Unexpended balance brought forward:			
U.S. securities (par)	6,433,702	7,410,218	8,939,196
Cash	7,134	15,289	10,000
Balance of fund, start of year.	6,440,836	7,425,507	8,949,196
Cash income during the year:			
Government receipts:			
From excise taxes:			
Passenger ticket tax	2,508,777	2,606,900	2,881,500
Waybill tax	134,055	144,000	154,000
Fuel tax	104,557	113,600	118,300
International passenger tax .	108,290	94,000	98,100
Refunds of taxes	-4,341	-4,500	-5,000
Intrabudgetary transaction:			
Interest on investments	746,298	762,900	790,000
Proposed legislation:			
Cancellation of interest transaction	...	...	-790,000
Total annual income	3,597,636	3,716,900	3,246,900

	1985 actual	1986 estimate	1987 estimate
Cash outgo during the year:			
Federal Aviation Administration:			
Grants-in-aid for airports........	788,657	781,000	844,000
Facilities and equipment..........	425,416	710,000	840,000
Research, engineering and development..................	261,894	262,000	181,000
Operations.......................	1,109,998	446,000	276,750
Proposed legislation: Operations	...	...	1,823,085
Department of Commerce:			
National Oceanographic and Atmospheric Administration, Operations, Research and Facilities	27,000	28,000	77,500
Reduction pursuant to P.L. 99-177	...	-33,789	-27,574
Total annual outgo	2,612,965	2,193,211	4,014,761
Unexpended balance carried forward:			
U.S. securities (par)	7,410,218	8,939,196	...
Treasury balance	15,289	10,000	8,181,350
Balance of fund, end-of-year...	7,425,507	8,949,196	8,181,335
Commitments against unexpended balances:			
Appropriated but not expended	-2,829,783	-2,952,783	-2,847,283
Reduction pursuant to P.L. 99-177	...	37,462	9,888
Committed to future liquidating cash appropriations:			
To liquidate outstanding obligations (contract authority)	-1,401,210	-1,633,210	-1,545,710
To reserve funds equivalent to cumulative shortfalls below minimum annual authorization levels (Public Law 97-248)	-1,155,401	-1,656,401	-2,363,601
Reduction pursuant to P.L. 99-177	...	-71,251	-71,251
Uncommitted balance, end of year ..	2,039,113	2,673,013	1,363,378

Primarily because of penalty provisions built into the 1982 Act, actual appropriations from the Trust Fund for FAA's cost of operating the airport and airway system has been substantially lower than amount contemplated in the Act and have resulted in overall user share of system cost well below the 85 percent share appropriately allocated to non-Federal users.

Legislation is proposed to be effective in 1987, to amend the provisions governing Trust Fund share of FAA operating cost to provide for a flat 75 percent recovery rate, to eliminate the penalties, and to suspend investment of the fund in interest bearing securities.

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Grants-in-Aid for Airports (Liquidation of Contract Authorization)
(Airport and Airway Trust Fund)

For liquidation of obligations incurred for airport planning and development under section 14 of Public Law 91-258, as amended, and under other law authorizing such obligations, and obligations for noise compatibility planning and programs, [$693,000,000] $800,000,000, to be derived from the Airport and Airway Trust Fund and to remain available until expended: *Provided*, That none of the funds in this Act shall be available for the planning or execution of programs the commitments for which are in excess of [$925,000,000] $712,500,000 in fiscal year [1986] 1987 for grants-in-aid for airport planning and development, and noise compatibility planning and programs, notwithstanding section 506(e)(4) of the Airport and Airway Improvement Act of 1982.

(Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)
Program and Financing (in thousands of dollars)

Identification code 69-8106-0-7-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total Obligations (object class 41.0)	934,756	925,000	712,500
Financing:			
17.00 Recovery of prior year obligations	-10,119	.....	.....
21.49 Unobligated balance available, start of year: Contract authority	-264,152	-326,515	-418,515
24.49 Unobligated balance available, end of year: Contract authority	326,515	418,515	723,215
39.00 Budget authority	987,000	1,017,000	1,017,200
Budget authority:			
Current:			
40.00 Appropriation	810,000	693,000	800,000
40.49 Portion applied to liquidate contract authority	-810,000	-693,000	-800,000
43.00 Appropriation (adjusted)	.....	.....	.....
69.10 Contract Authority (96 Stat. 676, 677) Permanent	987,000	1,017,000	1,017,200

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July 1964, Bureau of the Budget
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)
Program and Financing (in thousands of dollars)

Identification code 69-8106-0-7-402	19 85 actual	19 86 estimate	19 87 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net	934,756	925,000	712,500
Obligated balance, start of year:			
72.40 Appropriation	125,296	146,639	58,639
72.49 Contract authority	1,290,794	1,401,210	1,633,210
Obligated balance, end of year:			
74.40 Appropriation	-146,639	-58,639	-14,639
74.49 Contract authority	-1,401,210	-1,633,210	-1,545,710
77.00 Adjustments in expired accounts	-4,222	.....	.....
78.00 Adjustments in unexpired accounts	-10,119	.....	.....
90.00 Outlays	788,657	781,000	844,000
SUMMARY OF BUDGET AUTHORITY AND OUTLAYS			
Enacted/requested:			
Budget authority	987,000	1,017,000	1,017,200
Outlays	788,657	781,000	844,000
Reduction pursuant to P.L. 99-177:			
Budget authority	.....	-43,731	.....
Outlays	.....	-5,091	-16,332
Total:			
Budget authority	987,000	973,269	1,017,200
Outlays	788,657	775,909	827,668
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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)
Status of Unfunded Contract Authority (in thousands of dollars)

Identification code 69-8106-0-7-402	1985 actual	1986 estimate	1987 estimate
Unfunded balance, start of year........	1,554,946	1,727,725	2,007,994
Contract authority.....................	987,000	1,017,000	1,017,200
Reduction pursuant to P.L. 99-177: Contract authority..................	.....	-43,731	.....
Unfunded adjustments in expired accounts............................	-4,222	.....	.....
Appropriation to liquidate contract authority............................	-810,000	-693,000	-800,000
Unfunded balance, end of year......	1,727,725	2,007,994	2,225,194

The Airport and Airway Improvement Act of 1982 (Public Law 97-248, as amended) authorizes the Secretary of Transportation to incur obligations for grants, airport planning and development, and noise compatibility planning and programs through 1987. Obligations in 1987 are proposed to be $712,500 thousand.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-8106-6-7-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations	.....	-39,775	.....
Financing:			
21.49 Unobligated balance available, start of year: Contract authority	.....	.....	3,956
24.49 Unobligated balance available, end of year: Contract authority	.....	-3,956	-3,956
49.10 Budget authority (contract authority)	.....	-43,731	.....
Relation of obligations to outlays:			
71.00 Obligations incurred, net	.....	-39,775	.....
Obligated balance, start of year:			
72.40 Appropriation	.....	.....	5,091
72.49 Contract authority	.....	.....	-39,775
Obligated balance, end of year:			
74.40 Appropriation	.....	-5,091	-21,423
74.49 Contract authority	.....	39,775	39,775
90.00 Outlays	.....	-5,091	-16,332
These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).			
(Memo col: 33.0)	(Memo col: 8)	(Memo col: 8)	(Memo col: 4.0)

FEDERAL AVIATION ADMINISTRATION
GENERAL JUSTIFICATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)

The Grants-in-Aid program is authorized by the Airport and Airway Improvement Act of 1982 (Title V of P.L. 97-248 enacted September 3, 1982), as amended. The Act continues through fiscal year 1987 a Federal airport grant program that has been in existence in various forms, since 1946.

This submission provides for a $712.5 million annual grant program level in fiscal year 1987 for planning and development of the nation's airports.

Major Objectives:

- Place under grant all eligible project requests which are needed to meet airport safety and security regulations.
- Provide assistance for projects that assure the continued capacity of the existing airport system while funding high priority projects that will meet new capacity needs.
- Fund all high priority planning requests.
- Within available funding, satisfy the remaining high priority grant requests that meet national goals and objectives as outlined in the National Plan of Integrated Airport Systems.

Accomplishments:

The obligation of grant funds to meet growing needs and increasing costs of airport development has helped the nation to achieve a highly usable, useful, safe, and efficient airport system. This system is essential to commerce and supportive of the national defense. It stimulates the health of the aviation industry, including the aircraft construction industry which has a significant positive impact on the nation's balance of payments.

In addition to Federal grants through the Airport Improvement Program, improvements to the system are also financed by other sources, such as state aid, sponsor funds, and airline investments in facilities. The aggregate of all these sources of improvement has resulted in an airport system that provides a high level of service in the busiest air commerce system in the world.

FEDERAL AVIATION ADMINISTRATION
GENERAL JUSTIFICATION
GRANTS-IN-AID FOR AIRPORTS (AIRPORT AND AIRWAY TRUST FUND)

Safety considerations are foremost in determining the use of Grants-in-Aid funds. All safety and security requirements of regulations must be met before funds are directed to other areas. Other areas with specified needs receive attention as exemplified by emphasis over the past few years on capacity improvements at busy air carrier airports and on improving the reliever airport system. Funding for relievers continues to exceed the minimum authorized levels through use of additional discretionary funds. The purpose of the development at these airports is to relieve congestion and reduce the mix of commercial and noncommercial aircraft and thereby maintain safety and capacity at metropolitan area airports by making reliever airports more attractive to private and business flyers.

Funding Priority

After funding for highest priority safety and security programs, funding is provided for reconstruction, bringing airports up to standards, upgrading for changes in aircraft, capacity improvements, and new airports. Emphasis is placed on development required to maintain the functional integrity of the landing area to preserve existing capacity. The next priority is for bringing existing airports up to standards recommended for the current capacity of the airport. Then, funding is provided for upgrading airports to accommodate larger aircraft types and/or longer nonstop routes. New capacity development needs, which vary with the type of airport, are funded next. The most critical needs in this area are to alleviate current delays and to provide capacity improvements needed to meet near-term traffic projections. New airports are developed where needed and feasible with priority given to areas with potentially high activity levels. Funds for master planning are provided for high activity locations and integrated airport system planning is funded in accordance with the legislated minimum.

Airport Improvement Program (AIP)

The fiscal year 1987 Airport Improvement Program (AIP) funding request supports a grant program level of $712.5 million. Expected distribution is as follows:

Summary of 1987 AIP Fund Distribution ($000)

Category	Amount
Primary Airport Apportionments	$356,250
State Apportionments	85,500
Alaskan Supplemental	12,900
Other Commercial Service Airports (Minimum)	39,188
Reliever Airports (Minimum)	71,250
Noise Compatibility Projects (Minimum)	57,000
System Planning (Minimum)	7,125
Discretionary Remaining	83,287
TOTAL	$712,500

FEDERAL AVIATION ADMINISTRATION

Appropriation: Grants-in-Aid for Airports (Airport and Airway Trust Fund)

Budget Year: 1987

Summary of Appropriation Requirements

Appropriation 1986: $693,000,000

Net Difference - 1987 over 1986

Activity	1986 Appropriation	1987 Estimate	Increase (+) Decrease (-)	
Grants for planning and development (liquidation of contract authority)	$693,000,000	$800,000,000	$+107,000,000	$+107,000,000
Total.................	$693,000,000	$800,000,000	$+107,000,000	

Total estimate of Liquidating Cash appropriation, 1987 $800,000,000

Liquidation of Contract Authority

A cash appropriation of $800,000,000 is requested to liquidate obligations incurred under grants issued for airport planning and development projects and noise compatibility planning and programs.

A summary table of the status of the ADAP/AIP Programs follows:

Airport Development Aid Program FY 1971 - 1981
Airport Improvement Program FY 1982 - 1987
(Dollars in Millions)

	Cumulative Projection Through 1986	Cumulative Projection Through 1986 After Sequestering	1987 Estimate	Total
Contract Authorization	$9,004	$8,960	$1,017	$9,977
Obligations	$8,366	$8,326	$ 712	$9,038
Liquidating Cash Approp.	$6,568	$6,568	$ 800	$7,368

Below is a summary of the AIP Program reflecting the reduction pursuant to P.L. 99-177 (dollars in thousands):

	FY 1986 Enacted	FY 1986 After Sequestering	FY 1987 Estimate
Contract Authorization	$1,017,000	$973,269	$1,017,200
Obligations	$ 925,000	$885,225	$ 712,500

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)

For necessary expenses, not otherwise provided for, for acquisition, establishment, and improvement by contract or purchase, and hire of air navigation and experimental facilities, including initial acquisition of necessary sites by lease or grant, engineering and service testing including construction of test facilities and acquisition of necessary sites by lease or grant; and construction and furnishing of quarters and related accommodations of officers and employees of the Federal Aviation Administration stationed at remote localities where such accommodations are not available; to be derived from the Airport and Airway Trust Fund and to remain available until September 30, [1990, $993,000,000] 1991, $825,000,000: *Provided*, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities, and private sources, for expenses incurred in the establishment and modernization of air navigation facilties [: *Provided further*, That of the funds available under this heading, $10,000,000 shall be available for the Secretary of Transportation to enter into grant agreements with universities or colleges to conduct demonstration projects in the development, advancement, or expansion of airway science curriculum programs and such funds, which shall remain available until expended, shall be made available under such terms and conditions as the Secretary of Transportation may prescribe, to such universities or colleges for the purchase or lease of buildings and associated facilities, instructional materials, or equipment to be used in conjunction with the airway science curriculum programs].

(Department of Transportation and Related Agencies Appropriations Act, 1986 as included in Public Law 99-190.)

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FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)
Program and Financing (in thousands of dollars)

Identification code 69-8107-0-7-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
Direct program:			
00.01 Air route traffic control centers	511,171	176,204	224,176
00.02 Airport traffic control towers	389,277	282,645	362,148
00.03 Flight services facilities	73,465	136,821	35,645
00.04 Air navigation facilities	93,507	92,279	154,825
00.05 Housing, utilities, and miscellaneous facilities	122,236	117,636	157,097
00.06 Aircraft and related equipment	1,415	56,006	19,520
00.07 Development, test and evaluation facilities	8,475	18,409	16,489
00.91 Total direct program	1,199,546	880,000	969,900
01.01 Reimbursable program	7,666	11,000	11,000
10.00 Total obligations	1,207,212	891,000	980,900
Financing:			
Offsetting collections from:			
11.00 Federal funds	-5,328	- 7,650	- 7,650
14.00 Non-Federal sources	-2,338	- 3,350	- 3,350

Type size: 8 point 22 picas

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)
Program and Financing (in thousands of dollars)

Identification code 69-8107-0-7-402	1985 actual	1986 estimate	1987 estimate
21.40 Unobligated balance available, start of year................	-1,113,888	-1,270,161	-1,368,161
22.40 Unobligated balance transferred net.........................	...	15,000	...
24.40 Unobligated balance available, end of year..................	1,270,161	1,368,161	1,223,261
25.00 Unobligated balance lapsing.....	2,181	...	...
40.00 Budget authority (appropriation)..............	1,358,000	993,000	825,000
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	1,199,546	880,000	969,900
72.40 Obligated balance, start of year.........................	452,796	1,226,129	1,396,129
74.40 Obligated balance, end of year.........................	-1,226,129	-1,396,129	-1,526,029
77.00 Adjustments in expired accounts......................	-796	...	...
90.00 Outlays......................	425,416	710,000	840,000

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority................	1,358,000	993,000	825,000
Outlays.........................	425,416	710,000	840,000
Reduction pursuant to P.L. 99-177:			
Budget authority................	...	-42,699	...
Outlays.........................	...	-4,180	-7,974
Total:			
Budget authority................	1,358,000	950,301	825,000
Outlays.........................	425,416	705,820	832,026

F&E-3.

FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)

PROGRAM AND PERFORMANCE

Under this appropriation, the Federal airway system is improved by the installation of new equipment and the construction and modernization of facilities to keep pace with aeronautical activity. The appropriation also finances major capital investments required by other agency programs such as aircraft for flight inspection of facilities, and related training, and experimental facilities for the engineering and development program. The operating costs of facilities procured under this appropriation are financed under the Operations appropriation.

The funding requested for 1987 is in accordance with the Federal Aviation Administration's comprehensive plan for modernizing and improving air traffic control and airway facilities services.

Budget activities include:

1. Air route traffic control centers - Long range radar, communications and automation equipment provide air traffic controllers information on aircraft positions and weather at distances up to 185 miles.

2. Airport traffic control towers - Terminal area radar, communications and automation equipment aid air traffic controllers in handling air traffic at distances up to 60 miles.

3. Flight service facilities - Flight service stations and associated facilities provide flight assistance to pilots particularly general aviation pilots.

4. Air navigation facilities - Very high, medium and low frequency facilities are used to define airways and air routes and provide distance, direction and weather information to pilots. Precision landing systems, distance measuring equipment and visual lighting aids assist pilots in making final approaches to airport runways.

5. Housing, utilities, and miscellaneous facilities - This activity includes general facility support requirements which apply to a wide range of FAA installations.

6. Aircraft and related equipment - This activity includes the procurement, modification and/or replacement of aircraft and equipment both to inspect the accuracy and other characteristics of navigation and traffic control aids from the air and to conduct research and development activities.

7. Development, test and evaluation facilities - This activity provides for leasing and improvements of the plant and facilities at the Federal Aviation Administration Technical Center in Atlantic City, NJ.

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)

Object Classification (in thousands of dollars)

Identification code 69-8107-0-7-402		1985 actual	1986 estimate	1987 estimate
	Direct Obligations:			
	Personnel Compensation:			
11.1	Full-time permanent	35,573	35,139	29,932
11.3	Other than full-time permanent	343	339	228
11.5	Other personnel compensation	2,724	2,691	2,287
11.8	Special personal services payments	56	55	47
11.9	Total personnel compensation	38,696	38,224	32,494
	Personnel benefits:			
12.1	Civilian	5,465	5,398	4,589
21.0	Travel and transportation of persons	9,639	9,520	12,706
22.0	Transportation of things	1,874	2,575	2,550
23.2	Rental payments to others	5,577	5,600	13,968
23.3	Communications, utilities, and other rent	7,767	2,990	10,905
24.0	Printing and reproduction	207	163	182
25.0	Other services	336,230	150,224	153,729
26.0	Supplies and materials	33,512	11,101	12,900
31.0	Equipment	696,108	605,412	677,473
32.0	Lands and structures	61,099	39,793	48,404
41.0	Grants, subsidies, and contributions	3,250	9,000	...
42.0	Insurance claims and indemnities	122	...	...
99.0	Subtotal, direct obligations	1,199,546	880,000	969,900
99.0	Reimbursable obligations	7,666	11,000	11,000
99.9	Total obligations	1,207,212	891,000	980,900

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)
Personnel Summary

Identification code 69-8107-6-7-402	1985 actual	1986 estimate	1987 estimate
Direct:			
Total number of full-time permanent positions...........................	962	962	1,162
Total compensable workyears:			
Full-time equivalent employment....	1,117	1,134	964
Full-time equivalent of overtime and holiday hours................	31	42	34
Reimbursable:			
Total number of full-time permanent positions...........................	53	53	53
Total compensable workyears:			
Full-time equivalent employment....	41	53	53
Full-time equivalent of overtime and holiday hours................	1	1	2

GPO : 1971 O - 443-317

F&E-6

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DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-8107-6-7-402	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations	...	-14,688	-13,893
Financing:			
21.40 Unobligated balance available, start of year...............	...	...	28,011
24.40 Unobligated balance available, end of year..................	...	-28,011	-14,118
40.00 Budget authority (appropriation)...............	...	-42,699	...
Relation of obligations to outlays:			
71.00 Obligations incurred net........	...	-14,688	-13,893
72.40 Obligated balance, start of year.........................	...	...	-10,508
74.40 Obligated balance, end of year.........................	...	10,508	16,427
90.00 Outlays......................	...	-4,180	-7,974

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

GPO : 1971 O - 442-317

F&E-7

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FACILITIES AND EQUIPMENT ACTIVITIES

Organizational/Functional Bridge - Budget Authority

Activities	Total		ANF/ATC		DT&E/Aircraft Program	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air route traffic control centers		$ 226,220,200		$ 226,220,200		
Airport traffic control towers		234,171,600		234,171,600		
Flight service facilities		55,516,100		55,516,100		
Air navigation facilities		130,989,600		130,989,600		
Housing, utilities, and miscellaneous facilities		158,434,200		158,434,200		
Aircraft and related equipment		9,091,300				$ 9,091,300
Development, test and evaluation		10,577,000				10,577,000
Total, FY 1987 Estimate	1,162	$ 825,000,000	1,117	$ 805,331,700	45	$ 19,668,300

FEDERAL AVIATION ADMINISTRATION
FACILITIES AND EQUIPMENT APPROPRIATION
(AIRPORT AND AIRWAY TRUST FUND)

Budget Activity	Budget Authority
Air route traffic control centers	$ 226,220,200
Airport traffic control towers	234,171,600
Flight service facilities	55,516,100
Air navigation facilities	130,989,600
Housing, utilities, and miscellaneous facilties	158,434,200
Aircraft and related equipment	9,091,300
Development, test, and evaluation facilities	10,577,000
Total, 1987 Estimate	$ 825,000,000

General Justification

The funding request for fiscal year 1987 is in accordance with the Federal Aviation Administration's comprehensive plan for modernizing and improving air traffic control and airway facilities services from now to the year 2000, and also is within the funding limits contained in the Airport and Airway Improvement Act of 1982.

The National Airspace System Plan addresses the compelling problems of how best to accommodate spiraling demands for aviation services, constrain costs, recast the required technical framework, and deal with aging facilities. It delineates specific improvements to facilities and equipment. Particular emphasis focuses on en route and terminal air traffic control, flight service stations and weather services, ground-to-air services, interfacility communications, and auxiliary services.

The recurrent theme throughout the plan is that safety, capacity, productivity, and economy will be chiefly realized through higher levels of automation, consolidation of major facilities, and by the application of rapidly changing and lower cost technologies in telecommunications.

The Agency's primary goal is to provide for the safe and efficient use of the nation's airspace, while minimizing constraints on its use. The operation of the system to meet this objective must itself be efficient. Specific objectives include:

- Having an operating National Airspace System in place that meets the national aviation demand when it occurs.
- Accommodating increasing demand in a way that allows airspace users to operate with a minimum of artificial constraints and with fuel efficiency.
- Reducing risks of midair and surface traffic collision, landing and weather related accidents, and collisions with the ground.
- Increasing air traffic controller and flight specialist productivity by a factor of at least two by the year 2000, compared with 1980.

- Reducing the technical staff required to maintain and operate the modernized and expanded system by one-third by the year 2000, compared with 1980.

- Maintaining the overall cost of operations of the National Airspace System at the 1980 level, when adjusted for inflation, excluding the capital cost of modernization.

The United States National Airspace System is the busiest in the world. Today, aircraft are more versatile, productive and dependable, and because of these attributes there is an increase in aircraft usage. In fact, more than 225,000 aircraft now share American airspace, including commercial, general aviation, and military.

The nation's need for air safety and economic growth requires us to accommodate the growth of aviation. The demands of the nation's voters, the public outcry to reduce the cost of government, increase productivity and decrease regulation require us to do it. The requirements of meeting the public needs for safe, efficient and accessible travel require us to do so. The benefits to this nation of insuring aviation leadership require it. To meet these demands, the comprehensive National Airspace System Plan was conceived and approved.

Funding necessary to continue the implementation of the National Airspace System Plan is requested in this budget.

Despite its high level of safety, the National Airspace System is not without its problems. The major problem is how to expand the capacity of the airport and air traffic systems to provide more direct routings and accommodate the rate, sequence, and speed at which aircraft move through the system.

The coming years will require a radically new, cost-effective approach to maintaining the nation's airway facilities, better ways to finance the airport and airways system, and of accommodating the increased demand for aviation services, at a time when public resources are decreasing.

Forecasts indicate that demand for aviation services will more than double in the next two decades. The National Airspace System Plan which anticipates accommodating this degree of forecasted expansion in aviation activity is not, however, dependent upon this aviation growth to justify itself. The growth in aviation activity is only one part of the issue. The compelling issue is that the current system of FAA facilities is rapidly becoming outmoded and the maintenance and operational costs are rising. We must continue to implement the plan in accordance with the plan schedule so that necessary economies may be realized as soon as possible.

The following table depicts the expansion anticipated in aviation and highlights the years 1982, 1985, 1990, and 2000.

TOTAL NATIONAL AIRSPACE SYSTEM ACTIVITY

	1982	1985	1990	2000	Percent Growth 1982-2000
Existing and Projected Airports*	3,195	3,240	3,340	3,750	17.4
Airport Operations (millions)					
Aircraft Operations	127.6	126.3	148.0	194.2	52.2
Itinerant Operations	68.0	72.6	85.9	116.1	70.7
Instrument Operations	31.6	39.1	47.2	55.9	76.9
Towered Airport Operations	50.6	59.5	79.9	96.7	91.1
ARTCC Operations (millions)					
IFR Aircraft Handled	27.8	32.8	38.3	47.5	70.9
ACF Approach Control Operations**	--	--	--	55.9	--
FSS Services (millions)	62.4	59.6	71.7	87.5	40.2
Hours Flown (millions)					
Air Carrier	6.3	7.5	8.6	10.5	66.7
General Aviation	37.8	36.7	43.7	55.3	46.3
Military	6.2	5.8	6.6	6.8	9.7
Domestic Enplanements (Revenue Passenger) (millions)					
Air Carrier	272.8	336.4	417.7	605.7	122.0
Commuter	17.8	23.7	35.8	65.9	270.2
Aircraft Fleet (thousands)					
Air Carrier	2.5	2.8	3.3	4.4	76.0
Commuter**	1.5	1.7	2.0	2.9	93.3
General Aviation Total	213.2	210.2	235.0	287.0	34.6
Civil Helicopter***	7.0	6.9	8.6	12.4	77.1
Military Total	21.7	19.0	20.2	20.2	-6.9
Military Helicopter***	9.7	7.3	7.6	7.8	-19.6
Pilots (thousands)					
Instrument Rated	252.5	256.9	294.0	397.0	57.2
Total Pilots	764.2	719.7	791.2	950.4	24.4

* Aircraft operations forecasts are based on the existing airports included in the National Plan of Integrated Airport Systems (NPIAS).

** Approach control operations conducted from Area Control Facilities equal the number of instrument operations conducted by towers.

***Civil Helicopter and Commuter Fleets are included in the Total General Aviation Fleet. Military Helicopter Fleet is included in Total Military Fleet.

Source: NAS Plan, April 1985.

FEDERAL AVIATION ADMINISTRATION

Appropriation: Facilities and Equipment ($ in 000's)
(Airport and Airway Trust Fund) Budget Year: 1987

Activity/Subactivity	FY 1986 Enacted	FY 1986 After Sequestering	FY 1986 Revised Estimate a/	1987 Estimate
*EnRoute Facilities....	$ 231,720.6	$ 221,756.6	$200,122.4	$226,220.2
Long range radar.....	$ 113,571.9	$ 104,068.0	$ 67,317.4	$ 69,886.8
Automation equipment.	79,041.0	79,041.0	103,046.0	110,988.0
Other center facilities.........	39,107.7	38,647.6	29,759.0	45,345.4
*Terminal Facilities...	$ 452,412.4	$ 432,958.7	$447,676.9	$234,171.6
Terminal area radar..	$ 229,713.7	$ 222,284.6	$222,413.7	$159,847.0
Terminal area automation.........	31,400.0	31,400.0	31,400.0	15,000.0
Other tower facilities.........	191,298.7	179,274.1	193,863.2	59,324.6
*Flight Service Facilities..........	$ (10,000.0)	$ (9,570.0)	$ 0.0	$ 55,516.1
Flight service stations...........	($10,000.0)	($9,570.0)	$ 0.0	$ 55,516.1
International flight. service stations...	0.0	0.0	0.0	0.0
*Landing/NAVAIDS.......	$ 158,079.3	$ 151,281.9	$142,608.7	$130,989.6
VORTAC..............	$ 26,260.1	$ 26,260.1	$ 26,260.1	$ 43,907.8
Low and medium freq. facilities...	602.5	602.5	602.5	155.3
Instrument & visual landing systems...	131,216.7	124,419.3	115,746.1	86,926.5
*Housing, utilities, and miscellaneous....	$ 174,871.7	$ 167,352.2	$147,413.1 b/	$158,434.2
*Aircraft and related equipment............	($24,225.0)	($23,183.3)	$ 2,775.0	$ 9,091.3
*Development, test and evaluation...........	$ 10,141.0	$9,704.9	$ 9,704.9	$ 10,577.0
Total estimate of appropriation, 1987...	$ 993,000.0	$ 950,301.0	$950,301.0	$825,000.0

* Activity totals relate to Program, Project, Activity (PPA) detail with adjustments for $37 million in undistributed projects to distribute that amount to the Flight Service Station Activity and the Aircraft and Related Equipment Activity. PPA's relative to the Airway Science Curriculum are included in the Housing, Utilities, and Miscellaneous Activity. At the Activity Totals (PPA levels) there is a 4.3% reduction between the "FY 1986 Enacted" and the "FY 1986 After Sequestering."

a/ "FY 1986 Revised Estimate" reflects planned reprogrammings which are needed to realign priorities within the FY 1986 program.

b/ Includes $15.0 million to fund incomplete prior year approved projects from which unobligated, but essential, funds were transferred to the R,E&D appropriation through the legislative process.

General Statement

The fiscal year 1987 program is a continuation of the agency's efforts to modernize and improve air traffic control systems and airway facilities services. The requested budget authority totals $825,000,000. Detailed justifications, on a project-by-project basis, begin on page F&E-18.

Significant investments for continuing and new programs are: ($ in millions)

1. Radar Microwave Link (RML) System, $18.0; Doppler Weather Radar System - NEXRAD -, $31.9; Modernize ATC Computer with Host, $18.3; Advanced Automation System (AAS), $72.1; Provide Central Weather Processors (CWP), $20.6; and, Upgrade Traffic Management System, $27.8.

2. Establish/Replace Airport Surveillance Radar (ASR), $87.9; Provide Terminal Doppler Weather Radar (TDWR), $65.5; Remote Maintenance Monitoring System (RMMS), $28.5; Replace Terminal Air Traffic Control Facilities, $23.2.

3. Flight Service Station (FSS) Modernization, $44.8.

4. LORAN-C Transmitters, $43.0; Establish Precision Landing System with Microwave Landing System (MLS) and Medium Intensity Approach Light system with Runway Alignment Indicator Lights (MALSR) for MLS, $43.0; Provide Automated Weather Observing System (AWOS), $20.1.

5. National Radio Communications System (NARACS) Program, $16.3; and Systems Engineering and Integration, $82.5.

6. Aircraft and Related Equipment, $9.1

7. Development, Test and Evaluation, $10.6

The justification is presented in a format which includes an appropriation history for each program dating back to 1982 and projected costs through 1992. A statement of "Benefits" has been added along with a general breakdown of the budget year estimated costs by activity or task. At the upper right hand portion of each page of the justification there is a "NAS Plan" reference number, e.g., IV-15. In this example, the budget item requests funding associated with project number 15, Chapter IV, of the National Airspace System Plan, April 1985 edition.

The "Appropriation History" shown for each program for FY 1986 reflects the latest estimates and anticipated approval of reprogramming proposals.

Our policy is to submit programs under the Facilities and Equipment appropriation on a "fully funded" basis. This budget request deviates from that policy for three FY 1987 projects totaling $43.0 million for future requests. Where this is the case, programs are identified and in the justification there is discussion concerning amounts required to fully fund and complete the programs. This one time departure from a fully funded basis was necessitated by the need to adjust funding priorities.

FACILITIES AND EQUIPMENT

Staffing Requirements

	1984	1985	1986	1987
FTP Positions:	962	962	962	1,162

Background:

There are four basic areas funded by this appropriation which require direct FAA personnel. The work specialties required include electronic, civil and mechanical engineers, electronic technicians, quality control specialists, and aircraft flight inspection personnel. The utilization of these specialists is limited to functional areas which, by their nature, are neither economically nor operationally feasible to accomplish by contract. Funding for FAA personnel compensation and related costs is included in each project estimate where appropriate. The broad functional areas where direct FAA personnel are used are as follows:

1. Establishment/Improvement of Facilities. The establishment of new facilities is generally accomplished by contract. This includes building and construction; the design, manufacture and delivery of plant and electronic equipment; and equipment installation. FAA employees monitor contractors' efforts to assure compliance with agency regulations and criteria. Also, agency personnel make site selections, certificate facility performance, and perform special installations due to the scope, variety, or unique requirements of some projects. FAA personnel are also required for improvement and modernization projects since much of the work is performed in an operating facility and accomplished in a "live environment."

2. Flight Inspection. Positions are required to accomplish airborne certification of facility performance. The personnel required in this effort consist of flight crews and maintenance technicians to service the flight inspection aircraft. These people participate in site selection for new facilities, flight inspection for commissioning new facilities, and recertifying existing facilities after modification to assure that each facility is operating within specified parameters and that each can be safely utilized.

3. Factory Inspection. Quality control specialists are assigned to contractors' plants to review and approve contractors' quality control and reliability programs and to inspect, witness tests and accept or reject systems, equipment, materials, and services offered by contractors on significant contracts.

4. Aeronautical Center. Positions are included for repair, rehabilitation, and minor fabrication work required in support of the Facilities and Equipment program. Personnel include a variety of shop specialists who repair equipment which can be economically rehabilitated and returned to the field for future use.

Staffing Adjustments:

The Technical Center (ACT) is evolving into an organization with technical capabilities to support both Research, Engineering, and Development (R,E&D) and Facilities and Equipment (F&E) activities. This is commensurate with the overall strategy which has resulted in the merger of the Engineering and Development and the Airway Facilities organizations under one Associate Administrator for Development and Logistics. The philosophy includes a concept of developing a cadre of experts who will be responsible for a program from initial development through field deployment, thereby eliminating the problem of transitioning to a new staff as a project moves from development into field implementation.

At the present time, some personnel in R,E&D appropriation positions are being assigned F&E project work at the Technical Center. In both FY 1985 and FY 1986, the positions remain in the R,E&D appropriation with associated FTEs being funded from the F&E appropriation. However, in FY 1987, we are proposing a transfer of 200 positions from R,E&D to F&E since the workload will be in the F&E activity for a few years beyond FY 1987.

Facilities and Equipment work at the ACT includes preparation of equipment and test specifications, evaluation of contractor proposals, monitoring of contracts, participation in system tests, establishment of test beds and support facilities, and spectrum analysis work. In later years these positions will be used to assist in installing and commissioning the large increase in F&E equipment that will be delivered to the field.

This request reflects a decrease in FY 1987 of 148 FTE's which are associated with anticipated management improvements now being evaluated.

Summary of Requirements by Activity

Activity		1987 Request
1. Air route traffic control centers		
a. Long range radar		$ 69,886,800
b. Automation equipment		110,988,000
c. Other center facilities		45,345,400
	Total, Activity 1.	$ 226,220,200
2. Airport traffic control towers		
a. Terminal area radar		$ 159,847,000
b. Terminal area automation		15,000,000
c. Other tower facilities		59,324,600
	Total, Activity 2.	$ 234,171,600
3. Flight service facilities		
a. Flight service stations		$ 55,516,100
b. International flight service stations		-0-
	Total, Activity 3.	$ 55,516,100
4. Air navigation facilities		
a. VORTAC		$ 43,907,800
b. Low and medium frequency facilities		155,300
c. Instrument and visual landing systems		86,926,500
	Total, Activity 4.	$ 130,989,600
5. Housing, utilities, and miscellaneous facilities		
a. Housing		$ -0-
b. Utilities and miscellaneous facilities		65,734,200
c. Provide various air navigational aids/air traffic control facility improvements and support		92,700,000
	Total, Activity 5.	$ 158,434,200
6. Aircraft and related equipment		
	Total, Activity 6.	$ 9,091,300
7. Development, test, and evaluation facilities		
a. Buildings, construction and improvements		$ 7,790,000
b. Equipment		2,787,000
	Total, Activity 7.	$ 10,577,000
TOTAL, ALL ACTIVITIES		$ 825,000,000

Project	Locations	Amount	Page No.
1. Air Route Traffic Control Centers			
a. Long Range Radar			
(1) Long Range Radar (LRR) Program	Various	$ 5,000,000	F&E-18
(2) Radar Microwave Link (RML) System Replacement/Expansion/Networking	71	18,043,000	F&E-19
(3) Provide Doppler Weather Radar System Next Generation Weather Radar (NEXRAD)	10	31,900,000	F&E-20
(4) Provide En Route Controllers with Three-Level Weather Presentations	154	6,400,000	F&E-21
(5) Improve ATC En Route Radar Facilities	Various	8,543,800	F&E-22
b. Automation Equipment			
(1) Modernize Air Traffic Control Computer with Host	Various	18,296,000	F&E-23
(2) Provide Advanced Automation System (AAS)	Various	72,092,000	F&E-24
(3) Provide Central Weather Processors (CWP)	Various	20,600,000	F&E-25
c. Other Center Facilities			
(1) Air Route Traffic Control Center (ARTCC) Improvements/Plant Modernization	Various	10,090,000	F&E-26
(2) Upgrade Traffic Management System	Various	27,800,000	F&E-27
(3) Provide Data Multiplexing Network	Various	4,000,000	F&E-28
(4) Improve En Route Communications	15	3,455,400	F&E-29
Activity Total		$226,220,200	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1a(1)   Fiscal Year 1987   NAS Plan: IV-15 b/

Program Title: Long Range Radar (LRR) Proram

Amount: $5,000,000   Locations: Various

Basis for Request: The en route air traffic system depends upon Long Range Radar (LRR) systems to provide data about aircraft movements to insure safe operations and separations of aircraft, and to efficiently use the airspace. As part of a multiyear program to replace obsolete ARSR 1/2 and FPS-20/60 series long range radars at joint use facilities, DOD and FAA have entered into a joint agreement, on a 50-50 basis, to share the cost to replace and expand the Joint Surveillance System (JSS) radars to 47 operational facilities and one training and field support facility. The field support facility will include a computer capability to analyze radar performance and to provide software support and enhancements.

Description of Problem: The current Air Route Surveillance Radar (ARSR-1/2) and Military Primary Radars (FPS-20/60) at United States Air Force/FAA joint use sites are 1950 vintage vacuum-tube equipment and require replacement. These radars are becoming increasingly difficult and expensive to logistically support.

Description of Solution: As part of a multiyear program to replace obsolete ARSR-1/2 and FPS-20/60 series long range radars at joint use facilities, provide $5,000,000 to fund engineering and pre-production activities in support of the joint FAA/DOD program office. Such activities will be associated with specification finalization, joint siting criteria and schedule coordination, pre-production planning, and the institution of program control policies and procedures.

Benefits: The jointly developed program to replace and expand the Joint Surveillance System (JSS) radars with new ARSR-4 (three-dimensional) radars will significantly reduce maintenance workload and logistics costs, resolve problems relating to non-availability of spare parts support for the older radars, and obtain extended range capability to 250 nautical miles as compared to 200 nautical mile range of the older radars.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	3,000.0
1986	--	3,300 0
1987	--	5,000.0
1988-1992	48	358,200.0
Total	48 a/	$369,500.0 b/

a/ A total of 48 ARSR-4 radars will be jointly procured by the FAA and DOD.

b/ This NAS Project totals $480.2 million for the 1982-92 period and includes, in addition to this LRR Replacement project with ARSR-4 (Three dimensional) radars, projects for other LRR relocations, modifications and enhancements, and new establishments to correct or improve areas of coverage.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	Various	$ 5,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1a(2) Fiscal Year 1987 NAS Plan: V-3

Program Title: Radar Microwave Link (RML) System Replacement/Expansion/Networking

Amount: $18,043,000* Locations: 71

Basis for Request: The existing interfacility communications system is a hybrid of land lines and radio links, and is a combination of FAA-owned and leased services. Virtually all existing and future FAA facilities have or will have interfacility communication requirements. FAA-owned RML systems will play an expanding and changing role from that of primarily broadband radar data remoting to a communications trunking role that includes both voice and digital data remoting.

Description of Problem: Ever increasing costs for leased services to provide the required operational air-ground communications capabilities have prompted FAA to reexamine and develop a coordinated communications capability that will serve as a general transmissions medium. Portions of the existing FAA RML systems are outdated, labor intensive, and logistic support is increasingly expensive. A total of 720 Radar Microwave Link Terminal (RMLT) and Radar Microwave Link Repeater (RMLR) sites, equipped with FAA RML-1a through RML-4 systems, need to have equipment replaced. An additional 250 repeaters/terminals are planned to be installed to accommodate the expanded RML network requirements and 30 exchange and repair systems will be made available.

Description of Solution: Provide $18,043,000 for the fourth year of a multiyear program. Of this amount, $663,000 is for replacement of old RMS-1a through RML-4 type equipment at 3 existing sites with solid-state equipment. Expansion of the RML network by 68 additional sites at first year cost of $17,380,000 is also requested. Funds will be required yearly through FY 1989 to complete the RML system replacement, expansion and networking program.

Benefits: Reliable transmission of voice and data and broadband radar, reduction in the cost for interfacility communications, and improved system availability while providing the flexibility to accommodate the interfacility requirements of the NAS Plan are major benefits.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	308	38,800.0
1985	173	40,100.0
1986	190	44,980.0
1987	71	18,043.0 *
1988-1992	258	122,377.0
Total	1,000	$264,300.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	71	$ 18,043.0*

* This request is for funding that will be obligated in the first year (FY 1987) only and is, therefore, not fully funded. Requests will be made in future budget(s) for the remaining required funds, which are estimated at $14,400,000 to complete the work described, and $1,300,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT (AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1a(3)   Fiscal Year 1987   NAS Plan: IV-16

Program Title: Provide Doppler Weather Radar System - Next Generation Weather Radar (NEXRAD)

Amount: $31,900,000   Locations: 10

Basis for Request: The Weather Radar Program will establish an aviation weather radar network that will provide accurate aviation weather products (precipitation reflectivity, wind velocity, and turbulence indicators). Doppler weather radar systems will be deployed in the continental U.S. and overseas. Software algorithms will also be furnished to take advantage of the improved radar presentation of weather data.

Description of Problem: Present weather detection systems can only detect and display the location and intensity of precipitation, and do not provide any altitude information. The presence, location, and altitude of such hazardous weather phenomena as turbulence, downbursts, windshear, and hail are not adequately determined.

Description of Solution: Provide $31,900,000 to initiate first-year procurement of the NEXRAD system. These radars will provide the FAA's en route weather detection needs as well as the weather detection needs of the National Weather Service and the U.S. Air Force Air Weather Service which also share the cost.

Benefits: The major benefit from deployment of the NEXRAD system is an increase in aviation safety resulting from the accurate and timely detection of hazardous weather conditions. Other NEXRAD benefits will be a reduction of weather related delays and a savings in aviation fuel consumption due to improved flight planning capability.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	2,000.0
1985	--	7,500.0
1986	--	4,300.0
1987	10	31,900.0
1988-1992	119	114,800.0
Total	129 a/	$160,500.0

a/ This total inlcude 115 shared facilities (FAA's $ share is 20%) and 14 FAA-only non-CONUS facilities for which funding is provided under budget item 2a(3).

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
FAA share of cost associated with NEXRAD limited production.	10	$ 31,900.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1a(4) Fiscal Year 1987 NAS Plan: VI-16
(Planned)

Program Title: Provide En Route Controllers with Three-Level Weather Presentations

Amount: $6,400,000 Locations: 154

Basis for Request: Current advances in technology allow for 3-level weather presentations on controllers' display instead of the present two levels; thus improving the quality of weather information. The 3-level weather displays would replace broadband radar remoting and display equipment (RBDE) at the ARTCC's.

Description of Problem: The current method of displaying weather data on the controllers' display is inadequate. Present weather detection systems can only detect and display the location of precipitation. This will require modification to the air route surveillance radar (ARSR-3) and common digitizer (CD-2) equipment to provide improved weather information.

Description of Solution: Provide $6,400,000 to modify: 127 - CD-2's at a cost of $2,900,000 and 27 ARSR-3's at a cost of $3,500,000. These modifications will provide more precise data on the location and degree of precipitation intensity on the controllers' display.

Benefits: Three level weather presentations will enhance FAA's capability to detect hazardous weather and warn airmen as well as allow the decommissioning of "broadband" (RBDE) equipment thus making room for voice switching control equipment (VSCS).

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	154	6,400.0
1988-1992	--	-0-
Total	154	$ 6,400.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Provide CD-2 with 3-level Weather Enhancement	127	$ 2,900.0
2. Provide ARSR-3 with 3-level Weather Enhancement	27	3,500.0
		$ 6,400.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1a(5) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Improve Air Traffic Control En Route Radar Facilities

Amount: $8,543,800 Locations: Various

Basis for Request: The en route surveillance radar systems provide the means for determining positions of aircraft in the National Airspace System (NAS).

Description of Problem: The en route radar surveillance and beacon facilities at various locations need improvements and/or modifications that include state-of-the-art changes to correct deficiencies. This is the second of a three-year effort to replace 64 aging and deteriorating radomes. The establishment of two Long Range Radars (LRR) at Seligman, Arizona and Holland, Michigan and the relocation of two existing LRR systems at Monroe, Oregon and Pahoa, Hawaii is required to provide better coverage within the respective geographic areas. In addition, a continuing effort is required to improve Long Range Radar operational performance and reliability and to resolve problems unique to certain radar sites and/or common to the entire radar system.

Description of Solution: Provide $8,543,800 to accomplish improvements and support. This provides for replacing 5 aging and deteriorating radar radomes (second year of a 3-year effort), establishing 2 long range radars (LRR) at Seligan, Arizona, and Holland, Michigan relocating a LRR system at Monroe, Oregon and relocating a beacon-only system at Pahoa, Hawaii.

Benefits: The planned modifications will improve safety, reduce operating costs, and obtain greater efficiency in en route air traffic control and facility maintenance operations.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 11,181.0
1983	--	550.0
1984	--	700.0
1985	--	813.8
1986	--	6,037.4
1987	--	8,543.8
1988-1992	--	(See Note) a/
Total (through 1987)		$ 27,826.0

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
a. Replace LRR Radome	5	$ 1,000.0
b. Establish LRR	2 b/	4,477.2
c. Relocate LRR	1	1,059.7
d. Relocate Beacon-Only	1	811.6
e. Provide Added RML Repeater	1	415.3
f. Provide En Route Radar In-Service Engineering	--	780.0
		$ 8,543.8

b/ These LRR establishments will be accomplished using equipment 1) - that was originally purchased for Lake Havasu, Arizona, and 2) - a system currently decommissioned and available for reutilization.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1b(1) Fiscal Year 1987 NAS Plan: III
(En route) - 7

Program Title: Modernize Air Traffic Control Computer With Host

Amount: $18,296,000 Locations: Various

Basis for Request: The air Traffic Control (ATC) automation system plays a major role in the FAA's ability to provide for the safe and efficient use of the nation's airspace, while minimizing constraints on its use. The ability to serve airspace system users is directly dependent on the capacity and functional capability of automated facilities. The Host Computer System will provide the capacity needed to support functional improvement and traffic increase projected through the mid-1990's.

Description of Problem: At present, the FAA uses IBM 9020 computer systems to collect and process radar and flight plan data for presentation to air traffic controllers in Air Route Traffic Control Centers (ARTCCs). The IBM 9020 computers employ technology developed in the 1960's and are not expected to prove adequate for handling projected growth in aviation traffic beyond the 1980's. Capacity projection studies for the existing system indicate that several en route centers will start experiencing regular capacity problems in the mid-1980's. Since its installation, the automation system has been periodically improved to provide additional capacity and operating functions in response to growing air traffic demands. The ability to further improve the existing system is reaching design limitations. Also, because of the 1960's hardware and software technology embodied in the 9020's and the limited availability of spare parts, maintenance costs are higher than they would be with state-of-the-art equipment.

Description of Solution: Provide $18,296,000 for contract maintenance, installation, testing, and integration of the Host computers and engineering support at the field sites.

Benefits: The Host system must initially be in place and operating in the 1987 timeframe to preclude system saturation and constraints on air traffic. The Host computer will provide needed computer capacity and reliability during the late 1980's and into the early 1990's to accommodate the projected growth in the air traffic and support post-Host functional enhancements. In addition, the Host computer will also improve system maintainability.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	4,640.0
1984	--	11,673.0
1985	--	227,432.0*
1986	--	23,821.0*
1987	--	18,296.0
1988-1992	--	-0-
Total	--	$285,862.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	$ 14,471.0
2. Regional Site Work	3,825.0
	$ 18,296.0

*Adjusted to reflect cost adjustments for Host contract award savings. (FY 1985 savings = $17,000.0 and FY 1986 savings = $55,220.0)

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1b(2)a   Fiscal Year 1987   NAS Plan: III
(En route) - 12

Program Title: Provide Advanced Automation System (AAS) - Design Competition Phase

Amount: $61,826,000   Locations: Various

Basis for Request: The function and capacity of the current Air Traffic Control System must be expanded and improved to achieve efficient operation for both government and civilian users.

The AAS program is designed to provide the automated support needed to achieve significant gains in air traffic control thus improving efficiency, capacity, and safety.

Description of Problem: Most of the current automation system was developed in the 1960's. Because of its age and design characteristics, the present system is limited in both capacity and capability as well as having high maintenance costs. Despite the planned replacement of present equipment by the late 1980's, the projected growth in airway traffic will saturate the present system.

Description of Solution: In August 1984, the FAA awarded design competition phase (DCP) contracts to Hughes Aircraft Co. and IBM totaling $246.8 million for the design and development of the Advanced Automation System (AAS). Subsequent to the award of the DCP contracts, the AAS design has undergone programmatic and system review. In October 1985, the Secretary of Transportation approved changes in the scope to the DCP contracts as follows:

Early in 1985, a System Requirements Review (SRR) was conducted with both contractors to determine whether the overall functional requirements of the system level specification were complete, consistent and feasible. As a result of the SRR, changes to the DCP contracts were required. These changes upgraded and refined the system level specifications to include a more exact set of performance requirements and interface characteristics, and more detailed design and system fabrication requirements.

Early in the program, the FAA determined that deployment of the Initial Sector Suite should occur prior to implementation of the full AAS in order to take advantage of productivity gains associated with the sector suites at the earliest possible date, and to provide for a phased approach to full AAS implementation that would minimize the traditional risk of implementing a complex automation system. Implementation of this approach required a more definitive AAS specification with regard to man-machine interface and operational test requirements.

This request of $61,826,000 supports the foregoing enhancements by providing the necessary funding for the AAS design competition contractors and engineering support to assure adequate translation of performance requirements into hardware and software designs.

Benefits: The Advanced Automation System (AAS) will provide for improved safety and efficient use of the national Airspace System, while minimizing constraints on its use. The AAS will provide the ability to handle safely without delays, the growing civil and military air traffic projected through the 1990's and beyond; improve productivity of the air traffic controllers; and reduce maintenance costs. The AAS will perform new functions which will lead to enhanced system safety and improved fuel efficiency.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1b(2)a (Continued) | Fiscal Year 1987 | NAS Plan: III (En route) - 12

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	--	61,826.0
1988-1992	--	$ 12,336.0
Total	--	$ 74,162.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
1. Prime contracts	$ 46,351.0
2. Engineering support	15,475.0
	$ 61,826.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1b(2)b Fiscal Year 1987 NAS Plan: III
(En route) - 12

Program Title: Provide Advanced Automation System (AAS) - Acquisition Phase

Amount: $10,266,000 Locations: Various

Basis for Request: The function and capacity of the current Air Traffic Control System must be expanded and improved to achieve efficient operation for both government and civilian users.

The AAS program is designed to provide the automated support needed to achieve significant gains in air traffic control which will improve efficiency and safety, and increase capacity.

Description of Problem: Most of the current automation system was developed in the 1960's. Because of its age and design characteristics, the present system is limited in both capacity and capability and has high maintenance costs. Despite the planned replacement of present equipment by the late 1980's, the projected growth in airway traffic will saturate the present system.

Description of Solution: Provide $10,266,000 for architectural engineering and design of field facilities associated with deployment of the Initial Sector Suite System (ISSS) and for other FAA activities at field sites related to developing site specific engineering requirements. Deployment of the Initial Sector Suite is planned prior to implementation of the full AAS to take advantage of productivity gains at the earliest practical date, and to provide for a phased approach to full AAS implementation that would minimize the risk of implementing a large and complex automation system. Installation of the ISSS is planned for 1990. To meet the current schedule, architectural engineering and design work must begin in FY 1987.

Benefits: The Advanced Automation System (AAS) will provide for improved safety and efficient use of the national Airspace System, while minimizing constraints on its use. The AAS will provide the ability to handle safely without delays, the growing civil and military air traffic projected through the 1990's and beyond; improve productivity of the air traffic controllers; and reduce maintenance costs. The AAS will perform new functions which will lead to enhanced system safety and improved fuel efficiency.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	7,127.0
1985	--	17,604.0
1986	--	-0-
1987	--	10,266.0
1988-1992	--	$2,353,883.0
Total	--	$2,388,880.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
1. FAA in-house costs	$ 3,515.0
2. Facilities contracts	6,751.0
	$ 10,266.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1b(3)	Fiscal Year 1987	NAS Plan: III (Flight Service)-2

Program Title: Provide Central Weather Processors (CWP)

Amount: $20,600,000　　Locations: Various

Basis for Request: There is a need to provide real time dissemination of hazardous weather information to air traffic controllers and flight services specialists at en route sectors, terminal radar approach controls, tower cabs, and flight service stations.

Description of Problem: A large number of accidents and air traffic delays can be directly attributed to hazardous weather. Improvements are needed in collecting and disseminating weather information within the National Airspace System. The Central Weather Processor will improve capabilities of air traffic control during hazardous weather conditions and provide the capability for better dissemination of weather information to pilots. The Central Weather Processor will interface with the Flight Service Data Processor System (FSDPS). The Central Weather Service Meteorologist will use information and automated aids from the Central Weather Processor to analyze and interpret the weather information and inform air traffic control.

Description of Solution: The first funding provided in FY 1984 funded prototype equipment costs for which a contract was awarded in January 1985. This request for $20,600,000 is for the second year funding of the program to complete the development of the production prototype software. This software is to be used in the production and implementation phase for the systems that will be deployed to the field. This request also includes funding for on-going CWP activities which were previously funded under the R,E&D appropriation.

Benefits: The major benefit from deployment of the CWP system is an increase in aviation safety resulting from the accurate and timely detection of hazardous aviation weather conditions. Other CWP benefits will be a reduction of weather related delays and a savings in aviation fuel consumption due to improved flight planning capability.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	2 a/	26,000.0
1985	--	-0-
1986	--	-0-
1987	--	20,600.0
1988-199[illegible]	[illegible]	$ 50,100.0
Total	26	$ 96,700.0

a/ Of the two prototypes, only one will be used as an operational system.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Centrally Procured Software (Contractual)	$ 19,243.0
In-house Software Development	1,357.0
	$ 20,600.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1c(1) Fiscal Year 1987 NAS Plan: VI-9 & 16

Program Title: Air Route Traffic Control Center (ARTCC) Improvements/Plant Modernization

Amount: $10,090,000 Locations: Various

Basis for Request: The Air Route Traffic Control Centers (ARTCCs) in the National Airspace System provide en route separation and safe movement of aircraft. Upgrading the centers' plant, equipment, and environmental and security improvements are necessary from time-to-time to help keep pace with the increased use of national airspace.

Description of Problem: Advances in technology changes in equipment, different operational requirements, as well as normal wear and tear necessitate the improvement and modernization of existing ARTCC facilities. This budget item continues to fund the comprehensive national plan to accomplish the improvement and modernization of ARTCCs.

Description of Solution: Provide $10,090,000 to continue a multiyear program of plant modernizations at ARTCCs. The plant improvements include the following: Roofing repair/replacement, repaving access roads, and parking areas, general refurbishment of buildings and grounds, replacing cooling towers and environmental conditioning equipment, security enhancements, upgrading power systems and general building upgrade.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	2,950.6
1984	--	6,646.4
1985	--	7,310.6
1986	--	11,863.7
1987	--	10,090.0
1988-1992	--	(See Note) a/
Total (through 1987)	--	$ 38,861.3

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $12.0 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Regional Site Work	Various	$ 10,090.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1c(2) Fiscal Year 1987 NAS Plan: III
(En Route)-6

Program Title: Upgrade Traffic Management System

Amount: $27,800,000 Locations: Various

Basis for Request: There is a critical need to upgrade the traffic management system (TMS) to provide more effective capabilities to manage the flow of air traffic in the National Airspace System and to handle the projected growth in aviation traffic. TMS will be upgraded to improve system performance and expand services to minimize air traffic delays and be more responsive to user requirements.

Description of Problem: Present TMS hardware and software capabilities are inadequate to effectively manage air traffic flow. As a result only a small percentage of total airport and sector data is processed by the TMS automation system. The system frequently overloads during peak traffic periode requiring a reduction in number of sectors and airports being serviced. The current central computer cannot handle the large volume of traffic messages that must be processed to generate flow advisories and restrictions. The central processor problems limit the ability to fully utilize en route sector loading software which is used to access and develop strategies for relieving sector overloads. Weather affects system capacity more than any other factor and additional capabilities must be provided to the ARTCC Traffic management specialist to assist in real-time flow management decisions at the local level.

Description of Solution: Provide $27,800,000 to continue Phase II upgrades to the Traffic Management System. Funds will be used to procure a new Central Flow Control Computer, to procure stand-alone color weather radar displays for the Traffic Management Units (TMUs), and to continue development of traffic management software enhancements.

Benefits: The TMS upgrade program will provide an integrated system to improve monitoring of the air traffic system status, to enhance assessments of system demand and capacity, and to provide capabilities to traffic management specialists to employ traffic flow strategies which are highly responsive to existing traffic situations.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	8,020.0
1984	--	3,834.0
1985	--	3,900.0
1986	--	6,411.9
1987	--	27,800.0
1988-1992	--	1,688.1
Total	--	$ 51,654.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Hardware Procurement, Software Enhancements, and Documentation	Various	$ 27,800.0

Note: $1,400,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1c(3) Fiscal Year 1987 NAS Plan: V-2

Program Title: Provide Data Multiplexing Network

Amount: $4,000,000 Locations: Various

Basis for Request: Where data information is currently being transmitted over multiple leased voice grade telephone lines, the FAA has an extensive requirement for data multiplexing equipment primarily for Air Route Traffic Control Centers (ARTCCs) and, eventually, Area Control Facilities (ACF). These lines currently extend between ARTCC-to-Radar, ARTCC-to-ARTCC, and ARTCC-to-Terminal air traffic control facilities and in the future will extend between ACF and Airway Facilities (AF) Sector Offices.

Description of Problem: The FAA's annual cost for leased telecommunication services has increased significantly in the last few years. To establish a cost effective program, the FAA must employ alternate methods of data transmission that will reduce overall leased line requirements and, at the same time, increase reliability and availability.

Description of Solution: Provide $4,000,000 to procure commercially available data multiplexing systems that also have the capability of accomplishing automatic equipment and data line performance analysis. This is the continuation of an on-going program that will require funding through the year 1990.

Benefits: The monitoring and analysis capability incorporated as part of the multiplexing equipment will improve the reliability of data flow and reduce maintenance costs by pinpointing failure locations as they occur. Leased cost savings will amortize this investment in about two years. By procuring readily available off-the-shelf multiplexing equipment, the FAA can realize a rapid payback on this equipment through leased communication cost savings.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	3,944.0
1984	--	-0-
1985	--	-0-
1986	--	3,828.0
1987	--	4,000.0
1988-1992	--	12,000.0
Total	--	$ 23,772.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 3,500.0
2. Regional Site Work	Various	500.0
		$ 4,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 1c(4) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Improve En Route Communications

Amount: $3,455,400 Locations: 15

Basis for Request: Air/Ground Communications improvements are needed to enhance communications between air traffic controllers and pilots.

Description of Problem: In several instances, radio communications between pilots and controllers have been impaired, reduced, or lacking. corrective action must be taken to preserve safety. Also, changes in traffic volume and complexity have compounded the problem and require improved Air Route Traffic Control Center communications.

Description of Solution: Provide $3,455,400 to improve the communications capability.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	12	2,290.0
1984	31	3,249.4
1985	59	7,135.4
1986	28	4,655.4
1987	15	3,455.4
1988-1992	--	(See Note) a/
Total	--	$ 20,785.6

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $5.8 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	15	$ 2,171.2
2. Regional Site Work	15	1,284.2
		$ 3,455.4

Project	Locations	Amount	Page No.
2. Airport Traffic Control Towers			
a. Terminal Area Radar			
(1) Replace Airport Surveillance Radar 4/5/6 (ASR-4/5/6)	24	$ 87,934,700	F&E-31
(2) Improve/Upgrade Terminal Radar Systems	Various	6,412,300	F&E-32
(3) Provide Terminal Doppler Weather Radar (TDWRs)	14	65,500,000	F&E-33
b. Terminal Area Automation			
(1) Sustain New York Terminal Radar Approach Control Facility	1	15,000,000	F&E-34
c. Other Tower Facilities			
(1) Provide National Airspace System (NAS) Remote Maintenance Monitoring Capability	Various	28,529,200	F&E-35
(2) Replace Terminal Air Traffic Control Facilities	4	23,153,400	F&E-36
(3) Modernize Airport Traffic Control Tower/Terminal Radar Approach Control Facilities (ATCT/TRACON)	Various	1,446,600	F&E-37
(4) Provide Mobile Control Tower Facilities	7	1,925,000	F&E-38
(5) Provide Integrated Communications Switching Systems (ICSS)	Various	3,149,500	F&E-39
(6) Improve Terminal Communications	Various	1,120,900	F&E-40
Activity Total		$234,171,600	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2a(1) Fiscal Year 1987 NAS Plan: IV-13

Program Title: Replace Airport Surveillance Radar 4/5/6 (ASR-4/5/6)

Amount: $87,934,700* Locations: 24

Basis for Request: The Federal Aviation Administration (FAA) provides Airport Surveillance Radar (ASR) service at qualified airports to properly meet air traffic control requirements. Replacement of vacuum-tube radars is necessary to economically provide continued radar surveillance services.

Description of Problem: The 96 ASR-4/5/6 vacuum-tube radars now in use have been in service for up to 20 years and do not correct the basic performance limitations such as marginal capability to detect small aircraft. Due to the existing equipment. To achieve maximum utilization of state-of-the-art equipment, the new systems should be installed at 56 of the higher air traffic density airports which currently have ASR-7/8 equipment. The changed out ASR-7/8s would then be "leapfrogged" to existing ASR-4/5/6 sites. Forty ASR-4/5/6 sites will be directly replaced with ASR-9's.

Description of Solution: Provide $87,934,700 for the fifth year funding of a multiyear program to replace all vacuum-tube radars. This amount will procure 24 ASR-9 replacement radars.

Benefits: This program will provide increased availability and reliability of the terminal surveillance radar services while at the same time effect a significant reduction in maintenance workload.

APPROPRIATION SUMMARY

	Locations		
Year	Replacements	Leapfrogs	Amount ($000)
1982	2	--	$ 35,873.0
1983	--	--	-0-
1984	19	--	87,100.0
1985	25	14	144,100.0
1986	26	20	157,810.0
1987	24	--	87,934.7*
1988-1992	--	22	47,165.3
Total	96	56	$559,983.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	24	$ 87,934.7*

* This request is for funding that will be obligated in the first year (FY 1987) only and is, therefore, not fully funded. Requests will be made in future budget(s) for the remaining required funds, which are estimated at $10,000,000 to complete the work described, and $2,700,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2a(2) Fiscal Year 1987 NAS Plan: IV-13&VI-16

Program Title: Improve/Upgrade Terminal Radar System

Amount: $6,412,300 Locations: Various

Basis for Request: The airport surveillance radar systems provide the means for determining positions of aircraft approaching, departing, and passing through terminal areas.

Description of Problem: The terminal radar surveillance systems at various locations need minor improvements and/or modifications that include state-of-the art changes to correct deficiencies. In addition, support must be provided to solve problems which occur in the operational system.

Description of Solution: Provide $6,412,300 to accomplish necessary improvements and support.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 8,993.5
1983	--	8,442.6
1984	--	1,178.1
1985	--	2,338.0
1986	--	6,045.7
1987	--	6,412.3
1988-1992	--	(See Note) a/
Total		$ 33,410.2

a/ Requirements are based on acitivity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $5 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Item No.	Activity Tasks	Locations/ Quantity	Estimated Cost ($000)
(a)	Provide Terminal Radar In-Service Engineering	Various	$ 1,680.0 3/
(b)	Relocate ASRs	5	4,586.5 2/
(c)	Raise ASR Antennas	1	145.8 2/
			$ 6,412.3

2/ NAS Plan No. IV-13
3/ NAS Plan No. VI-16

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2a(3) Fiscal Year 1987 NAS Plan: IV (planned)

Program Title: Provide Terminal Doppler Weather Radar (TDWR)

Amount: $65,500,000* Locations: 14 Operational Systems
1 Support System

Basis for Request: The amended Weather Radar Program will establish terminal aviation weather radar capability that will provide accurate aviation weather products (precipitation reflectivity, wind velocity, and turbulence indicators). It will also furnish software algorithms to improve the radar presentation of weather data.

Description of Problem: Present terminal weather detection systems can only detect the location and intensity of precipitation. The presence, location, and altitude of hazardous weather phenomena such as turbulence, downbursts, hail, and microburst-type wind shear conditions are not adequately determined.

Description of Solution: Provide $65,500,000 for procurement of en route NEXRAD systems with modified software to be installed at 14 high activity terminal locations that experience microburst and other hazardous weather phenomena plus 1 support system for training, development, and maintenance support. These radars will be used until the optimized terminal doppler weather radar is procured. The modified en route NEXRAD will then be redeployed to en route use.

Benefits: This will provide early implementation of doppler weather radar into the terminal area providing an increase in aviation saftey resulting from the accurate and timely detection of hazardous aviation weather conditions. Other benefits will be a reduction of weather related arrival and/or departure delays and the resulting savings in aviation fuel consumption.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	14 (plus 1 support sys.)	65,500.0 *
1988-1992	--	22,500.0 a/
Total	14 (plus 1 support sys.)	$ 88,000.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	14 Operation 1 Support	$ 65,500.0*

a/ In addition to this amount, it is anticipated that a terminal doppler weather radar (TDWR) program will require funding in future years to replace the modified enroute NEXRADs as they are redeployed to enroute use.

* This request is for funding that will be obligated in the first year (FY 1987) only and is, therefore, not fully funded. Requests will be made in future budget(s) for the remaining funds, which are estimated at $19,000,000 to complete the work described, and $3,500,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2b(1)   Fiscal Year 1987   NAS Plan: III
(Terminal)-Planned

Program Title: Sustain New York Terminal Radar Approach Control Facility

Amount: $15,000,000   Locations: 1

Basis for Request: The Automated Radar Terminal Systems (ARTS) provides the means for terminal air traffic controller to maintain the highest level of safety, impose minimum constraints with efficient use of the terminal air traffic control system, and at the same time, minimize FAA operations cost.

Description of Problem: The New York TRACON is currently operating at the maximum hardware design limit. Software enhancements can satisfy aircraft operation growth only up to June 1987, at which time there will be severe degradation in performance. Projected traffic loads have been simulated and resulting effects of data loss and slow response verified. A specification has been developed and released to correct this problem.

Description of Solution: Provide $15,000,000 to continue the project stated in FY 1986 and complete the implementation of a modified ARTS IIIA in the form of a distributed system architecture. The funds are required for the increased costs associated with:

1) Meeting an extremely critical and time-compressed schedule for system design, production, implementation, and integration.

2) Refined hardware/software requirements that most accurately reflect air traffic needs in satisfying projected growth until replacement by the Advanced Automation System.

Benefits: This project will obtain increased capacity availability, reliability of the New York Terminal Radar Control Area, and assures the continued safety essential in this highly used terminal air space.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	NY TRACON	$31,400.0
1987	NY TRACON	$15,000.0
1988-1992	--	-0-
Total		$ 46,400.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activities/Tasks	Estimated Cost ($000)
Centrally Procured Equipment and Services	$15,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(1)   Fiscal Year 1987   NAS Plan: VI-1

Program Title: Provide National Airspace System (NAS) Remote Maintenance Monitoring Capability

Amount: $28,529,200   Locations: Various

Basis for Request: As demands increase for expanded NAS capability, measures must be undertaken to achieve more efficient staffing, resource utilization, and to modernize the NAS to accommodate the maintenance concept for the 1980s. A central part of the concept is the implementation of remote maintenance monitoring capability at facilities. This will allow maintenance personnel to be more productive and effective, as well as provide the potential for consolidation of work centers.

Description of Problem: Without the implementation of new techniques and procedures like remote maintenance monitoring, the agency would be required to perpetuate existing personnel/staffing levels for maintenance activities. Therefore, we have elected to utilize known technology to set more efficient ways to use existing staff resources to conduct necessary maintenance activities as well as cope with additions to the National Airspace System.

Solution: Provide a total of $28,529,200 to continue work associated with providing remote maintenance monitoring at various NAS facilities. This is a multiyear effort to install remote maintenance monitoring service at most facilities in the National Airspace System.

Benefits: Remote maintenance monitoring will permit staffing reductions and consolidations, improve quality of worklife, improve workforce utilization, and increase workforce productivity. When fully implemented, remote maintenance monitoring will permit substantial savings in operations cost and manpower.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 8,000.0
1983	--	15,100.0
1984	--	1,804.4
1985	--	43,400.0
1986	--	43,400.5
1987	--	28,529.2
1988-1992	--	197,048.0
Total	--	$337,282.1

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	--	$ 26,506.6
2. Regional Site Work	--	2,022.6
		$ 28,529.2

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(2) Fiscal Year 1987 NAS Plan: III (Terminal)-13

Program Title: Replace Terminal Air Traffic Control Facilities

Amount: $23,153,400 Locations: 4

Basis for Request: The FAA must replace various terminal facilities and equipment on a continuing basis to provide an acceptable level of safe air traffic control service and to meet current and future operational requirements.

Description of Problem: The increase in terminal air traffic activity has caused an expansion in services such as radar advisory service, for aircraft operating under visual flight rules, and special handling for noise abatement programs. Airport expansion has brought about excessive viewing distances from the control tower to outer aircraft movement areas, thus creating blind viewing areas which contribute to air traffic delays. Replacement is necessary when facilities can no longer meet current requirements and expansion or improvement is not feasible.

Description of Solution: Provide $23,153,400 to construct new terminal air traffic control facilities and to relocate the operation from the old facility to the new quarters.

Benefits: Strategic location and adequate height of an air traffic control tower will minimize excessive viewing distances from the control tower to outer aircraft movement areas, and will enable the controller to achieve an aerial view of the airport.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	1	$ 3,834.4
1983	12	45,115.9
1984	13	45,367.0
1985	4	16,815.9
1986	7	35,468.2
1987	4	23,153.4
1988-1992	--	(See Note) a/
Total		$169,754.8

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $20 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	4	$ 6,577.5
2. Regional Site Work	4	16,575.9
		$ 23,153.4

Control Tower and TRACON facilities to be replaced are:

Louisiana	New York	New Mexico	Virginia
Monroe	Buffalo	Albuquerque	Norfolk

Note: $1,900,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(3) Fiscal Year 1987 NAS Plan: III (Terminal)-13

Program Title: Modernize Airport Traffic Control Tower/Terminal Radar Approach Control Facilities (ATCT/TRACON)

Amount: $1,446,600 Locations: Various

Basis for Request: The FAA must upgrade and improve various terminal facilities and equipment on a continuing basis to provide an acceptable level of safe service, and to meet current and future operational requirements.

Description of Problem: During the time ATCT/TRACON facilities have been in service, many changes have taken place in operational or safety requirements and energy costs, in addition to normal equipment/structure wearout which rendered these facilities obsolete and in need of improvements.

Description of Solution: Provide $1,446,600 to improve, repair, and modernize ATCT/TRACON facilities at various locations.

Benefits: Improve the operational efficiency and environment of obsolete and worn out ATCT/TRACON facilities which are not candidates for relocation.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	17	$ 2,640.0
1983	15	3,798.0
1984	56	11,871.9
1985	--	10,841.3
1986	--	11,974.4
1987	--	1,446.6
1988-1992	--	(See Note) a/
Total	--	$ 42,572.2

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $8.3 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 354.9
2. Regional Site Work	Various	1,091.7
		$ 1,446.6

Note: $3,500,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(4) Fiscal Year 1987 NAS Plan: III (Terminal)-13

Program Title: Provide Mobile Control Tower Facilities

Amount: $1,925,000 Locations: 7

Basis for Request: To meet airport traffic control tower service requirements during emergencies, disasters, and in support of special events, mobile control tower equipment is required for strategic and timely deployment.

Description of Problem: Mobile tower equipment available through the FAA Depot does not meet interim operational readiness and disaster requirements which would allow a timely response to emergency situations, resulting from earthquakes, floods, and fire. In addition mobile tower equipment is required to provide control tower service at special events and fly-ins at non-towered airports.

Description of Solution: Provide $1,925,000 for mobile control tower units at six strategic regional office locations, plus, one unit at the FAA Depot for additional deployment.

Benefits: The mobile control tower units will provide FAA regional Air Traffic operations personnel with the capability to respond quickly and effectively to disasters, shutdowns, and events of general aviation interests such as airshows and fly-ins at non-towered airports.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	7	1,925.0
1988-1992	--	-0-
Total	7	$ 1,925.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	7	$ 1,925.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(5) Fiscal Year 1987 NAS Plan: III (Flight Service)-13

Program Title: Provide Integrated Communications Switching Systems (ICSS)

Amount: $3,149,500 Locations: Various

Basis for Request: Terminal air traffic control communications systems provide the means for controllers to communicate with pilots and with one another, both locally and at other facilities. One principal component of these facilities is the switching system that provides controllers with the capability to instantaneously place intercom, interphone and radio calls to coordinate the progress of aircraft under control by the facility.

Description of Problem: The voice communications switching systems currently in use are functionally and technologically obsolete, and generally difficult or impossible to expand. State-of-the-art switching systems, the Integrated Communications Switching (ICSS), are being installed in conjunction with projects to replace, relocate, and modernize airport traffic control towers and terminal radar approach control facilities, and also at problem sites experiencing the most difficuities with obsolete systems. Some local site preparation is required prior to installation. The new systems are being procured under a contractual arrangement which allows a lease with purchase option or an initial outright purchase upon delivery and installation.

Description of Solution: Provide $3,149,500 for the purchase of ICSS systems and site preparation.

Benefits: This program will provide effective communications in terminal facilities. Leased cost savings will amortize this investment in about three and one-half years.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	46	9,000.0
1985	25	10,300.0
1986	74	51,344.9
1987	5	3,149.5
1988-1992	--	16,400.0
Total	150	$ 90,194.4

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	5	$ 3,100.0
2. Regional Site Work	1	49.5
		$ 3,149.5

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 2c(6) Fiscal Year 1987 NAS Plan: V-16

Program Title: Improve Terminal Communications

Amount: $1,120,900 Locations: Various

Basis for Request: The FAA must upgrade and improve various terminal facilities and equipment on a continuing basis to satisfy operational requirements. Communications facilities such as remote transmitters/receivers sites provide the means for continuous reliable air/ground communications for air traffic control service.

Description of Problem: New equipment must be installed, or existing facilities and equipment must be improved, expanded or relocated to assure the continuance of high quality communications.

Description of Solution: Provide $1,120,900 to improve the communications capability.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	1,937.2
1984	--	2,400.0
1985	--	2,100.1
1986	--	7,354.2
1987	--	1,120.9
1988-1992	Various	(See Note) a/
Total		$ 14,912.4

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $2.0 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 927.1
2. Regional Site Work	Various	193.8
		$ 1,120.9

Project	Locations	Amount	Page No.
3. Flight Service Facilities			
a. Flight Service Stations			
(1) Provide Flight Service Station (FSS) Modernization	Various	$ 44,800,000	F&E-42
(2) Very High Frequency Direction Finder Network Program	93	7,651,100	F&E-43
(3) Improve Flight Service Facilities	Various	3,065,000	F&E-44
b. International Flight Service Stations			
No projects planned.			
Activity Total		$ 55,516,100	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 3a(1) Fiscal Year 1987 NAS Plan: III (Flight Service) - 1 & VI-10

Program Title: Provide Flight Service Station (FSS) Modernization

Amount: $44,800,000 Locations: Various

Basis for Request: The flight service station (FSS) modernization program provides for an automated national aeronautical and meteorological information dissemination system to replace the present labor-intensive manual technique of providing flight services.

Description of Problem:

a. Provide Flight Service Station Automation. The approved FSS master plan describes a program to provide automation for FSS specialists. Prior year appropriations have provided for initial automation procurement. Continued funding is required to achieve the objectives of the master plan.

b. Acquisition of Flight Service Facilities. Funds are required to provide basic equipment and furnishings for the new AFSS buildings. This equipment includes items such as transmitters and receivers and engine generators.

c. Consolidate Flight Service Stations. The FSS Modernization Master Plan provides for the establishment of 61 automated facilities. Funds are being requested to continue consolidation by closing and relocating additional FSS's in FY 1987. The consolidation funds also provide for additional consoles and new voice switching systems (ICSS) for the automated facilities and for retermination of existing air-to-ground communications and navigational aids into the 61 facilities.

Description of Solution: Provide $44,800,000 for continued funding for: (a) the flight service automation system, including system enhancements; (b) procurement of ancillary equipment for the new AFSS facilities; and (c) lease or purchase of 20 new voice switching systems, and other FSS equipment necessary for facility consolidation in accordance with the FSS master plan.

Benefits: Aviation weather service is being improved in quality and timeliness, thus, improving safety and saving fuel.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 37,400.0
1983	--	74,320.0
1984	--	36,200.0
1985	--	39,477.4
1986	--	-0-
1987	--	44,800.0
1988 - 1992	--	89,900.0
Total	--	$ 322,097.4

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
(a) Provide FSS Automation	Various	$ 6,600.0
(b) Acquire Flight Service Facilities	Various	3,600.0
(c) Consolidate/Relocate FSS	Various	34,600.0
		$ 44,800.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 3a(2) Fiscal Year 1987 NAS Plan: IV-11 & VI-16

Program Title: Very High Frequency Direction Finder Network Program

Amount: $7,651,100 Locations: 93

Basis for Request: The network of very high frequency (VHF) direction finder (DF) facilities provides emergency assistance to lost or disoriented pilots. This system has contributed significantly to the safety of human lives and property.

Description of Problem: Direction finder (DF) service is required in the National Airspace System to meet operational needs for coverage down to 2,000 feet above terrain along major visual flight rules (VFR) flyways in nonradar areas. To meet the requirement, the existing DF network must be realigned. This will involve the relocation of existing facilities and decommissioning of sites no longer required.

Additionally, existing solid-state direction finder antenna site equipment will be retrofitted with standard batteries and battery chargers for backup power to permit continuous operation without the need for emergency standby engine generators.

Description of Solution: Provide $7,651,100 to realign and upgrade the direction finder network.

Benefits: This program will promote safety by providing better DF coverage along the numerous VFR flyways and will improve facility performance.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	185	40,411.3
1985	35	9,774.8
1986	--	-0-
1987	93	7,651.1
1988 - 1992	--	49,500.0
Total	--	$ 107,337.2

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Item No.	Activity Tasks	Location/ Quantity	Estimated Cost ($000)
(a)	Relocate DF Facilities	33	7,334.2
(b)	Decommission DF Facilities	12	60.0
(c)	Improve DF Facilities	48	256.9
	Total	93	$ 7,651.1

Note: $3,500,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 3a(3) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Improve Flight Service Facilities

Amount: $3,065,000 Locations: Various

Basis for Request: Flight services must be upgraded and improved on a continuing basis to provide the level of service required by users and to meet current and future operational requirements consistent with the FSS Master Plan.

Description of Problem: New equipment must be installed, or existing facilities and equipment must be improved, expanded, or relocated to assure the continuance of high quality flight services.

Description of Solution: Provide $3,065,000 to improve flight service facilities.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	22	$ 1,739.1
1983	44	3,027.2
1984	29	1,092.2
1985	--	1,023.4
1986	--	-0-
1987	--	3,065.0
1988-1992	--	(See Note) a/
Total		$ 9,946.9

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $2.5 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 1,043.1
2. Regional Site Work	31	2,021.9
		$ 3,065.0

Project	Locations	Amount	Page No.
4. Air Navigation Facilities			
a. VORTAC			
(1) Implement LORAN-C Navigation in the National Airspace System	5	$43,000,000	F&E-46
(2) Improve Very High Frequency (VHF) Omni-Directional Radio Range (VOR) with Distance Measuring Equipment (DME), and VOR with Tactical Air Navigation (VORTAC) Facilities	Various	907,800	F&E-47
b. Low and Medium Frequency Facilities			
(1) Improve Nondirectional Radio Beacon (NDB) Facilities	3	155,300	F&E-48
c. Instrument and Visual Landing Systems			
(1) Provide Precision Landing Systems: Microwave Landing System (MLS) and Medium Intensity Approach Light Systems with Runway Alignment Indicator Lights (MALSR)	56	43,000,000	F&E-49
(2) Provide Approach Lighting System Improvement Program	8	3,653,000	F&E-50
(3) Establish Automated Weather Observing Systems (AWOS)	Various	20,054,500	F&E-51
(4) Establish Additional Facilities for Straight-In Nonprecision Approaches	20	2,079,000	F&E-52
(5) Establish Precision Approach Path Indicators (PAPI)	11	1,117,100	F&E-53
(6) Establish Runway End Identification Lights (REIL)	43	4,707,000	F&E-54
(7) Retrofit Remote Radio Control System for Visual Aid Facilities	21	3,055,600	F&E-55
(8) Provide Low Level Wind Shear Alert System (LLWAS) Improvements	110	6,150,600	F&E-56
(9) Improve Airport Approach and Landing Aid Facilities	Various	3,109,700	F&E-57
Activity Total		$ 130,989,600	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4a(1) Fiscal Year 1987 NAS Plan: VII-3

Program Title: Implement LORAN-C Navigation in the National Airspace System

Amount: $43,000,000 Locations: 5

Basis for Request: LORAN-C navigation system signals now exist over approximately two-thirds of the United States land area, and along all coastal areas. Originally installed as a government provided marine navigation aid, LORAN-C has come into increasing use by general aviation and helicopter operators because low cost aircraft receivers are available. With the receivers, navigation is possible at low altitudes and in offshore and mountainous areas. Estimates of aircraft now equipped with LORAN-C are 20,000 fixed wing and 700 helicopters (Source: Aircraft Electronics Association).

Description of Problem: At present, LORAN-C signal coverage is not adequate for aviation uses over the midcontinent states.

Description of Solution: Provide $43,000,000 for the procurement and installation of five LORAN-C transmitters and associated control systems to fill the midcontinent signal coverage gap.

Benefits: The five new LORAN-C stations in conjunction with existing transmitters will provide the signal coverage needed for a supplemental radio navigation system for en route and terminal Instrument Flight Rule (IFR) navigation throughout the contiguous United States. Additionally, nonprecision approaches will be supported where signal requirements are adequate.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	121 a/	5,000.0
1987	5	43,000.0
1988-1992	--	-0-
Total	--	$ 48,000.0

a/ 120 monitors and 1 station upgrade.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment and Services	5	$ 43,000.0 b/

b/ The funds will be provided to the United States Coast Guard for acquisition of the five sites and for procurement and installation of the transmitters and control systems under an interagency agreement.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4a(2)   Fiscal Year 1987   NAS Plan: VI-16

Program Title: Improve Very High Frequency Omnidirectional Radio Range (VOR) with Distance Measuring Equipment (DME), and VOR with Tactical Air Navigation (VORTAC) Facilities

Amount: $907,800   Locations: Various

Basis for Request: Very high frequency omnidirectional radio range (VOR) with distance measuring equipment (DME) and VOR with tactical air navigation (VORTAC) facilities are major components of the Federal Aviation Administration's air navigation system and are used by pilots for safe en route air navigation and landing approaches.

Description of Problem: The VORTAC facilities at two locations require upgrading for high altitude jet routes and a continuing effort is needed to improve VOR/VORTAC operational performance and reliability and resolve site specific problems.

Description of Solution: Provide $907,800 to improve air navigation facilities.

Benefits: These projects will improve operations and facility performance, provide added capabilities, and promote safety.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 15,258.8
1983	--	22,766.1
1984	--	14,093.0
1985	--	9,623.5
1986	--	21,260.1
1987	--	907.8
1988-1992	--	125,800.0 a/
Total		$209,709.3

a/ In addition to this amount, there are requirements based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for these additional requirements is anticipated to average $1.5 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$786.2
2. Regional Site Work	2	121.6
		$907.8

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4b(1) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Improve Nondirectional Radio Beacon (NDB) Facilities

Amount: $155,300 Locations: 3

Basis for Request: The nondirectional radio beacon (NDB) is a low or medium frequency facility which transmits nondirectional radio signals whereby an aircraft pilot can navigate by determining his bearing with respect to the facility and "home" in on the station.

Description of Problem: The NDB systems at two locations are obsolete tube-type equipment. They are costly and difficult to maintain and need to be replaced with new solid-state equipment. At one location the NDB/DME facility needs to be relocated to improve course guidance and direction to an instrument landing system (ILS) runway.

Description of Solution: Provide $155,300 to improve NDB facilities.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems and deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	2	$ 306.6
1983	--	-0-
1984	2	541.9
1985	--	-0-
1986	3	602.5
1987	3	155.3
1988-1992	--	13,200.0 a/
Total	--	$ 14,806.3

a/ In addition to this amount, there are requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for these additional requirements is anticipated to average $400 thousand per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	3	$ 38.3
2. Regional Site Work	3	117.0
		$ 155.3

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(1) Fiscal Year 1987 NAS Plan: IV-7

Program Title: Provide Precision Landing Systems: Microwave Landing System (MLS) and Medium Intensity Approach Light Systems with Runway Alignment Indicator Lights (MALSR)

Amount: $43,000,000 Locations: 56

Basis for Request: The Microwave Landing System (MLS) has been adopted as the United States and International Civil Aviation Organization standard to replace the Instrument Landing System (ILS).

Description of Problem: A requirement exists to provide precision approach aids to assist pilots in landing safely during conditions of reduced ceiling and visibility. The electronic guidance system presently in use is the Very High Frequency/Ultra High Frequency (VHF/UHF) Instrument Landing System (ILS). ILS does not have the capability to satisfy some current or anticipated operational requirements to the year 2000 such as: signal reliability, operational flexibility, conformity with all Department of Defense requirements, and expansion of transmission channels.

Description of Solution: Provide $43,000,000 to install 56 MLS's with approach light systems, where required at 12 of the sites.

Benefits: MLS with approach lights provides the precision guidance to satisfy the full range of operational requirements, both civil and military, to all types of aircraft in all categories of landings. MLS overcomes the inherent limitations which exist in the present ILS. MLS provides an increased number of available channels; operational flexibility; more precise, improved quality of signals-in-space; and, reduced susceptibility to siting problems and adverse weather conditions.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	15	$ 20,266.6
1983	15	19,666.6
1984	21	25,208.3
1985	60	42,574.9
1986	60	33,101.1
1987	56	43,000.0 a/
1988-1992	544	581,100.0
Total	771	$ 764,917.5

a/ This program will result in the award of contract with multi-year commitments. In the unlikely event that the multi-year portion of the contract is cancelled, cancellation fees would be provided from available appropriated resources.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Microwave Landing System	56	$ 40,854.6
2. Approach Light System	12	2,145.4
		$ 43,000.0

Note: $7,000,000 will be required in a future budget for in-house costs associated with this program.

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(2) Fiscal Year 1987 NAS Plan: IV-10

Program Title: Provide Approach Lighting Systems Improvement Program

Amount: $3,653,000 Locations: 8

Basis for Request: Many of the current FAA approach lighting facilities do not have energy-efficient components and utilize rigid structural steel approach light towers to achieve the required lighting plane.

Description of Problem: The existing steel approach light towers are rigid and can severely damage aircraft in the event of an impact. Replacement of the existing rigid tower structures with lightweight, frangible structures that collapse or break apart upon impact will reduce damage to an aircraft which may strike an approach light tower structure during departure or landing. Many of the approach lighting systems also contain electrical components which are not energy-efficient and require replacement to reduce energy consumption.

Description of Solution: Provide $3,653,000 to modify the present approach lighting systems by installing lightweight, frangible structures and energy-efficient electrical components.

Benefits: Lightweight, frangible approach light towers will help reduce the severity of accidents and will standardize the design of approach light systems used at airports. Additionally, replacing electrical equipment at existing high intensity approach lighting (ALS) facilities serving Category I runways with medium intensity systems (MALSR) will result in reduced energy consumption.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	20	15,466.5
1984	19	13,235.5
1985	29	15,956.2
1986	26	10,048.7
1987	8	3,653.0
1988-1992	201	72,800.0
Total	303	$ 131,159.9

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	8	$ 1,796.1
2. Regional Site Work	8	1,856.9
		$ 3,653.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(3)   Fiscal Year 1987   NAS Plan: III
(Flight Service)-9

Program Title: Establish Automated Weather Observing Systems (AWOS)

Amount: $20,054,500   Locations: Various

Basis for Request: Accurate, reliable weather information is an integral element in the safe and efficient utilization of the nation's airspace.

Description of Problem: Weather observations are required for flight planning, safety and efficiency as prescribed in Parts 91, 121, and 135 of the Federal Aviation Regulations at all air carrier terminals and for Instrument Flight Rule (IFR) approaches by commuter and air taxi operators. In addition, the Air Traffic Control System requires weather observations for advisory purposes for flow control, traffic control, and to provide pilot weather briefings. The lack of accurate, reliable weather information generates numerous flight plan changes, increases fuel consumption, increases air traffic workload, and inhibits flow control, thereby reducing efficient utilization of the nation's airspace.

Description of Solution: Provide $20,054,500 to establish Automated Weather Observing Systems at non-towered locations.

Benefits: The principal benefits to be realized from the implementation of AWOS at non-towered airports, which presently have no Government or non-Government weather observation services, are the increased safety and capability for IFR flight operations within the United States. These systems will provide the users with high quality "real-time" weather information by various means, including the use of computer generated voice outputs. Current weather information will be provided when and where it is needed by the users. The safety implications of providing accurate and reliable weather information at additional airports can be related to the fact that weather conditions were cited as a factor in 48 percent of the general aviation accidents which occurred during a recent seven-year period. Additionally, operators are required to accept a minimum approach altitude penalty for safety reasons if an altimeter setting must be extrapolated from a distant source. This reduces the capacity of the airport and reduces the viability of using the airport for destination or alternate purposes in poor visibility conditions. AWOS result in more effective operational decisions based on the availability of accccurate and reliable weather information at additional airports.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	27,224.6
1987	--	20,054.5
1988-1992	--	65,700.0
Total	--	$112,979.1

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 19,475.0
2. Regional Site Work	Various	579.5
		$ 20,054.5

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(4) Fiscal Year 1987 NAS Plan: IV-9

Program Title: Establish Additional Facilities for Straight-In Nonprecision Approaches

Amount: $2,079,000 Locations: 20

Basis for Request: On nonprecision approaches, a fix is established in the final segment (Visual Descent Point) by using the information from the following three navigation aids: the primary facility which provides the bearing or radial guidance; Distance Measuring Equipment which provides the point; and the Precision Approach Path Indicator which will provide vertical guidance to the runway touchdown point.

Description of Problem: Nonprecision approaches are typically designed to position an aircraft at minimum descent altitudes, usually 250 feet or greater above the landing surface, at the runway threshold. For most aircraft, this position is too high and too close to the touchdown point to complete the approach safely. This tends to cause overshoots, missed approaches, and increased hazard of maneuverability at low altitude. Additional navigation aids are needed to identify the point at which an aircraft should establish itself on a stabilized descent and to provide visual guidance to the runway touchdown point.

Description of Solution: Provide $2,079,000 for Precision Approach Path Indicators on runways served by nonprecision approach facilities which are already equipped with Distance Measuring Equipment.

Benefits: Nonprecision approach procedures will be improved by adding PAPI facilities. The addition of this system will provide safe approach slope clearance over obstacles in the approach zone, ensure correct aircraft wheel-to-runway threshold crossing height, reduce the likelihood of overshoots and missed approaches, and decrease the potential hazard of maneuverability at low altitudes.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	60	$ 4,480.1
1983	40	3,607.7
1984	58	4,864.3
1985	29	3,110.1
1986	24	1,881.4
1987	20	2,079.0
1988-1992	--	12,921.0
Total	--	$ 32,943.6

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	20	$ 892.0
2. Regional Site Work	20	1,187.0
		$ 2,079.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(5) Fiscal Year 1987 NAS Plan: IV-9

Program Title: Establish Precision Approach Path Indicators (PAPI)

Amount: $1,117,100 Locations: 11

Basis for Request: The Precision Approach Path Indicator (PAPI) is an international standard visual aid designed to provide visual glidepath information to a runway. It assures a stabilized descent and approach slope clearance over obstructions throughout the approach (usually four miles or greater in length) to touchdown.

Description of Problem: Approach paths over water, flat terrain, obstructions, or other deceptive areas, make it difficult for the pilot to determine if the approach is at the proper glide path angle. Without reference or instrumentation, a pilot may overshoot or undershoot the approach with consequent hard landings or missed approaches. PAPI's provide a stabilized descent rate and are important for noise abatement in populated areas, especially for turbojet aircraft approaches.

Increased approach speeds and cockpit workloads of many modern aircraft, particularly turbojets, indicate a strong operational safety requirement for additional visual vertical guidance provided by PAPI. High aircraft approach speeds no longer allow pilots the time to predict critical decision points and distances relative to the runway using computations based on time/distance and wind-aloft information which often must be estimated.

Description of Solution: Provide $1,117,100 to establish Precision Approach Path Indicators.

Benefits: The PAPI enhances safety, regularity of operations, and noise abatement during landing operations.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	48	3,609.6
1986	34	2,986.2
1987	11	1,117.1
1988-1992	--	18,882.9
Total	--	$ 26,595.8

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	11	$ 490.5
2. Regional Site Work	11	626.6
		$ 1,117.1

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(6) Fiscal Year 1987 NAS Plan: IV-9

Program Title: Establish Runway End Identification Lights (REIL)

Amount: $4,707,000 Locations: 43

Basis for Request: The Runway End Identification Lights (REIL) mark the approach end of the runway. The REIL enables pilots to make early identification of the threshold when the natural environment either fails to provide the required reference or presents false information. Omnidirectional REIL systems are established where the instrument or visual approach flight path requires circling to land.

Description of Problem: The pilot's visual identification of the location of the approach end of the runway can be obscured, distracted, or confused by a variety of environmental conditions. Some of these conditions are caused by high ambient light conditions, such as brightly lighted freeways or boulevards which look like runways, or highly lighted residential, industrial, or shopping areas which over-light the approach end of the runway.

In other cases, the complete runway cannot be identified because the approach is partially obscured by trees or undulating terrain. These conditions are aggravated during instrument meteorological conditions when the pilot, after completing instrument approach procedure, must quickly identify the approach end of the runway from a very low altitude, position the aircraft in an approach configuration, and execute a safe landing in the touchdown zone.

Description of Solution: Provide $4,707,000 to establish REIL systems at 43 locations.

Benefits: The REIL improves safety where visual references are deficient.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	15	562.2
1984	--	-0-
1985	55	3,563.1
1986	55	4,938.1
1987	43	4,707.0
1988-1992	--	26,193.0
Total	--	$ 39,963.4

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	43	$ 2,993.0
2. Regional Site Work	43	1,714.0
		$ 4,707.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(7) Fiscal Year 1987 NAS Plan: IV-9

Program Title: Retrofit Remote Radio Control System for Visual Aid Facilities

Amount: $3,055,600 Locations: 21

Basis for Request: The remote radio control system permits operation and control of airport visual aids systems from the airport air traffic control tower.

Description of Problem: Existing remote radio control equipment requires a complex coding procedure to control airport visual aids systems. The procedure is time consuming and susceptible to mis-coding.

Description of Solution: Provide $3,055,600 as funding for the first year of a multiyear program to retrofit existing remote radio control equipment with new systems that meet the operational requirements of air traffic controllers.

Benefits: The new system will permit single-button control of each visual aid function, thereby eliminating the complex coding requirements of the present equipment.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	21	3,055.6
1988-1992	--	11,944.4
Total	--	$ 15,000.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	21	$ 2,384.4
2. Regional Site Work	21	671.2
		$ 3,055.6

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(8) Fiscal Year 1987 NAS Plan: III (Flight Service)-12

Program Title: Provide Low Level Wind Shear Alert System (LLWAS) Improvements

Amount: $6,150,600 Locations: 110

Basis for Request: Wind Shear (hazardous wind changes) associated with thunderstorms is a highly localized weather phenomena. Safety requires that pilots be informed of wind shear conditions during the critical approach, landing and takeoff phases of aircraft operation.

Description of Problem: Enhancements being made to provide LLWAS with the capability to detect microburst activity at airports will result in a system with additional remote wind sensors and increased computer data output. The larger number of sensors, together with the additional information, makes it impractical to provide wind data for each sensor on a digital type display.

Additionally, the National Transportation Safety Board and the National Academy of Sciences have recommended implementation of a data recording and archiving system for LLWAS to provide for needed climatological data reduction and analysis, software modifications, LLWAS operations, maintenance and evaluation, and aircraft accident investigations.

Description of Solution: Provide $6,150,600 to provide new tower displays and data recording and archiving systems at all 110 LLWAS facilities, relocate sensors at one of these facilities, and replace sensor support structures at one other of these LLWAS sites.

Benefits: These projects will promote safety, provide added capabilities, and enhance operations and facility performance.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	31	7,800.0
1984	--	-0-
1985	--	-0-
1986	110	19,888.0
1987	110	6,150.6
1988-1992	--	-0-
Total	--	$ 33,838.6

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	110	$ 5,216.0
2. Regional Site Work	110	934.6
		$ 6,150.6

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 4c(9)   Fiscal Year 1987   NAS Plan: VI-16

Program Title: Improve Airport Approach and Landing Aid Facilities

Amount: $3,109,700   Locations: Various

Basis for Request: Agency criteria provides for improving qualifying airport approach and landing aid facilities where such improvements will significantly increase safety, performance, reliability, and maintainability.

Description of Problem: The approach and landing aid facilities at various locations need minor improvements and/or modifications that include state-of-the-art changes to correct deficiencies, relocation of existing facilities, and installation of new equipment to meet current and planned requirements. In addition, technical support must be provided to resolve site-related problems and/or problems common to the approach and landing aid system.

Descriptions of Solution: Provide $3,109,700 to improve airport approach and landing aid facilities.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems or deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 469.3
1983	--	1,808.7
1984	--	2,605.4
1985	--	5,099.7
1986	--	2,610.1
1987	--	3,109.7
1988-1992	--	(See Note) a/
Total	--	$ 15,702.9

a/ Requirements are based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for this item is anticipated to average $2.0 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 1,533.9
2. Regional Site Work	18	1,575.8
		$ 3,109.7

Project	Locations	Amount	Page No.
5. Housing, Utilities, and Miscellaneous Facilities			
a. Housing			
No projects planned			
b. Utilities and Miscellaneous Facilities			
(1) Establish National Radio Communications System (NARACS)	Various	$ 16,301,500	F&E-59
(2) Modernize and Improve Unmanned FAA Airway Facilities Buildings and Equipment	Various	4,000,000	F&E-60
(3) Modernize Airport Cables into Loop Systems	Various	1,000,000	F&E-61
(4) Expand Computer-Based Instruction (CBI) at Terminal Facilities	Various	2,300,000	F&E-62
(5) Improve/Replace Power Systems	Various	8,000,000	F&E-63
(6) Purchase Land or Easement for Existing Facilities	Various	3,179,900	F&E-64
(7) Provide Test Equipment	Various	7,952,800	F&E-65
(8) Airport Datum Monument Program	300	1,500,000	F&E-66
(9) Major Leases, Utilities, and Other Equipment Rental	Various	16,000,000	F&E-67
(10) Provide Mainten. Control Centers (MCC)	Various	5,500,000	F&E-68
c. Provide Various Air Navigational Aid/Air Traffic Control Facilities Improvements and Support			
(1) Provide Systems Engineering and Integration Support	Various	82,500,000	F&E-69
(2) Improve Air Navigational Aids and Air Traffic Control Facilities	Various	2,300,000	F&E-70
(3) Provide Air Navigational Facility Air Traffic Control System Support	Various	7,000,000	F&E-71
(4) Provide Frequency and Spectrum Engineering	Various	900,000	F&E-72
	Activity Total	$158,434,200	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(1) Fiscal Year 1987 NAS Plan: VI-14

Program Title: Establish National Radio Communications System (NARACS)

Amount: $16,301,500 Locations: Various

Basis for Request: The FAA National Radio Communications system (NARACS) program supports objectives associated with national policy on emergency mobilization (Presidential Directive 53) and protection of transmitted information (Presidential Directive 24).

Description of Problem: The FAA does not have a systemwide alternate or secondary command and control communications capability in the event of a major disruption in the leased common carrier services. Such disruptions, either national, regional, or local in scope would have a major impact on the management and operation of the National Airspace System (NAS).

(a) Enhance Backbone, Eastern and Western Networks - The NARACS consists of four major networks: backbone, Eastern, Western, and regional. The high frequency/single sideband (HF/SSB) backbone network has been installed. This request is to continue the needed upgrading of the backbone, eastern, and western networks.

(b) Upgrade/Expand Regional Radio Communications Networks -- This request continues that phase of the NARACS program which replaces obsolete HF/SSB and frequency modulation (FM) equipment with current state-of-the-art equipment, and expands current regional networks to meet regional and local emergency and operational requirements, including maintenance, airports, security, and flight standards activities.

Description of Solution: Provide $16,301,500 to continue the upgrading and expansion of the national radio communications system.

Benefits: The FAA national radio communications system will provide alternate as well as secondary modes of two-way radio communications, which are independent of common telecommunication carriers, to support command and control commuications associated with emergencies, management and operational functions, security matters, flight standards and airport activities, accident investigations, and facility maintenance.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	1,788.0
1984	--	12,024.0
1985	--	20,000.0
1986	--	7,687.7
1987	--	16,301.5
1988-1992	--	24,600.0
Total	--	$ 82,401.2

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Item No	Activity Tasks	Location/ Quantity	Estimated Cost ($000)
(a)	Enhance Backbone, Eastern, and Western Networks	Various	$ 4,300.0
(b)	Upgrade/Expand Regional Communications Networks	Various	12,001.5
			$ 16,301.5

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(2)   Fiscal Year 1987   NAS Plan: VI-8 & 16

Program Title: Modernize and Improve Unmanned FAA Airway Facilities Buildings and Equipment

Amount: $4,000,000   Locations: Various

Basis for Request: A majority of the structures housing and/or supporting electronic systems within the National Airspace System are over 20 years old and are expected to be required beyond the year 2000.

Description of Problem: Many existing structures at various facilities used to house and support the electronic equipment required to operate the national Airspace System were built during the 1940s and 1950s. At the time of construction, very little consideration was given to energy consumption and to safety standards. Increased cost for power and fuel, along with the enactment of Occupational Safety and Health Administration (OSHA) standards and requirements, has generated the need to retrofit some structures and modify others. Additional modifications and refurbishments are required to extend the service life of these structures to the year 2000 and beyond. These facilities include shelters for Very High Frequency Omnidirectional Radio Ranges (VORs), radars, Radar Microwave Links (RMLs), Instrument Landing System (ILSs), engine generators, communication outlets, and other facilities which are not normally staffed on a full-time basis. Needed improvements include roofing, siding, insulation, construction of partitions to reduce the equipment room size, updating of heating and air conditioning systems, and other project designs to extend the service life of these structures.

Description of Solution: Provide $4,000,000 to fund this multiyear program to extend the service life of structures used to house and support components of the National Airspace System.

Benefits: Major benefits are the extension of the service life of the buildings and equipment coupled with reductions in energy consumption.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	8,581.7
1984	--	11,672.6
1985	--	9,332.1
1986	--	5,000.0
1987	--	4,000.0
1988-1992	--	102,300.0 a/
Total	--	$140,886.4

a/ In addition to this amount, there are requirements based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for these additional requirements is anticipated to average $3.2 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Regional Site Work	Various	$ 4,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: [illegible]   Fiscal Year 1987   NAS Plan: [illegible]

Program Title: Modernize Airport Cables Into Loop System

Amount: $1,000,000   Locations: Various

Basis for Request: Continued reliable operation of FAA-owned facilities at many major airports is contingent upon stable and consistent cabling systems.

Description of Problem: Power, control, signal and communications cables serving FAA-owned facilities at major airports are 25 to 30 years old, and replacement is necessary for reliable operations. In addition, the capability for remote maintenance monitoring, future expansions and redundance for all operational functions is required.

Description of Solution: Provides $1,000,000 to fund this multi-year program to install replacement cable systems including loop systems at major airports.

Benefits: Major benefits are the elimination of outages caused by deteriorating and failing cables, cable systems providing redundant paths, and flexibility for future growth and capability.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	[illegible]
1986	--	[illegible]
1987	--	[illegible]
1988-1992	--	[illegible]
Total		[illegible]

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ [illegible]
2. Regional Site Work	Various	[illegible]
		$ [illegible]

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(4) Fiscal Year 1987 NAS Plan: VI-2 (Planned)

Program Title: Expand Computer-Based Instruction (CBI) at Terminal Facilities

Amount: $2,300,000 Location: 109

Basis for Request: Computer-based instruction is recognized as an effective and efficient training media. It can deliver a maximum amount of training in minimum time and reduce the level of training manpower now needed in a lecture/lab environment. Air Traffic's initial effort in this area was for the purpose of recovering the ATC system to prestrike levels; thus, greater emphasis was placed on all enroute facilities and at 25 level IV and V "pacing" towers. The training workload has since shifted from the level IV and V towers to our level III facilities. These smaller towers now develop the manpower for the level IV and V towers' training pipeline. This training is work intensive and manpower consuming. These towers do not have training staffs that are dedicated solely to training.

Description of Problem: Level III towers were not part of the original CBI program. Hence, the recovery effort was predicated on rebuilding the staffing levels at larger towers and ARTCC's. As forecasted, the training workload at the larger facilities has decreased somewhat. However, there is still not enough training support to provide the required proficiency, refresher, and facility initial qualification training; nor give/receive the required training imposed by implementation of the NASP. This lack of training resources is especially true at our level III towers and below, and at our smaller level II facilities.

Description of Solution: Provide $2,300,000 to procure two CBI terminals, one dual disc drive, one single disc drive, and 1 printer for each Level III tower.

Benefits: Expansion of CBI will provide a systematic, standardized, and effective national training program at those sites where training is the most work-intensive and the training staff almost non-existent. This will directly improve the quality of training at these facilities and provide an effective and efficient training media where most needed.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 2,000.0
1983	--	1,700.0
1984	--	1,700.0
1985	--	-0-
1986	--	-0-
1987	109	2,300.0
1988 - 1992	--	3,700.0
Total	--	$ 11,400.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location Quantity	Estimated Cost ($000)
Establish new CBI sites at Level III ATCT's.	109	$ 2,300.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(5) Fiscal Year 1987 NAS Plan: VI-7 & 16

Program Title: Improve/Replace Power Systems

Amount: $8,000,000 Locations: Various

Basis for Request: New solid-state electronics equipment being introduced into the National Airspace System (NAS) requires stable power sources free from surges to provide reliable operations.

Description of Problem: Many FAA facilities, when constructed did not require lightning and/or surge protection for the equipment since tube-type equipment, operated at higher voltages, was not as susceptible to being damaged by the transient currents created by lightning, and other disturbances. To protect the new electronic equipment, lightning and surge protection devices need to be installed in the buildings at the entry point of commercial power sources. Concurrently, it is necessary to provide improved bonding, shielding and grounding for the new equipment.

In addition, due to the age of the standby power equipment and the reduced power requirements associated with the solid-state electronic equipment, the standby power equipment existing at most facilities needs to be modernized, overhauled, or in some, cases, replaced with battery systems.

Description of Solution: Provide $8,000,000 to fund this multiyear program to improve/replace the power sources for the equipment used in the National Airspace System.

Benefits: Major benefits are optimum quality of electrical power necessary to ensure high facility availability and reliability and reduced operating costs and energy consumption of standby power systems at unmanned facilities.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 1,300.0
1983	--	-0-
1984	--	-0-
1985	--	3,000.0
1986	--	7,265.2
1987	--	8,000.0
1988-1992	--	58,900.0 a/
Total	--	$ 78,465.2

a/ In addition to this amount, there are requirements based on activity levels and local situations which are validated on a year-to-year basis. Generally, funding for these additional requirements is anticipated to average $1.3 million per year.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
1. Centrally Procured Equipment and Services	Various	$ 7,058.7
2. Regional Site Work	Various	941.3
		$ 8,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(6) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Purchase Land or Easement for Existing Facilities

Amount: $3,179,900 Locations: Various

Basis for Request: In certain cases, it is cost beneficial to purchase land or acquire protective easements for permanent existing facilities rather than continuing to lease properties. Generally, such purchases are considered economical if land will be required for 15 year or more.

Description of Problem: In the past, land required for airway facilities installations was typically leased. Over extended periods, the costs of leasing land for certain facilities are not economical and sometimes may result in the need to relocate an entire facility if the least cannot be renewed. If relocation is not economically feasible and the facility must remain operational, the land site must be acquired through condemnation. Once the condemnation process begins, the Government is obligated to pay the court awarded value in addition to the associated legal expenses.

Description of Solution: Provide $3,179,900 to purchase land for existing facilities at various sites which economically qualify for purchase.

Benefits: The purchase of land assures continued operation of the facility at a particular site. It also promotes a cost saving over the cost of relocation and precludes an interruption in the services of such facilities.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 3,527.0
1983	--	5,301.6
1984	--	14,300.0
1985	--	6,920.0
1986	--	4,000.0
1987	--	3,179.9
1988-1992	--	25,000.0
Total	--	$ 62,228.5

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Regional facility site purchases	Various	$ 3,179.9

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(7)　　Fiscal Year 1987　　NAS Plan: VI-16

Program Title: Provide Test Equipment

Amount: $7,952,800　　Locations: Various

Basis for Request: The installation of new solid-state facilities and equipment in the National Airspace System has established a requirement to replace the older tube-type test equipment with more accurate and stable test equipment.

Description of Problem: A large percentage of the test equipment currently used in maintaining the National Airspace System equipment was designed to be compatible with the tube-type technologies. As more and more of the tube-type equipment are being replaced with newer solid-state equipment, the ability of the older tube-type test equipment is being exceeded. The newer equipment requires more precision and accuracy in verifying proper operation. The new test equipment must also have the capability and interfaces which make it compatible with equipment used in a remote maintenance environment.

Description of Solution: Provide $7,952,800 as the third increment of a multiyear program to upgrade the test equipment used in the maintenance of the National Airspace System.

Benefits: Major benefits include: the reduction of high maintenance and repair costs associated with the older test equipment; the new test equipment is phase-lock-loop synthesized and, therefore, more accurate and more stable; on-line availability time of test equipment would increase; and, supply support for new equipment is commercially available off-the-shelf.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	4,000.0
1985	--	7,220.6
1986	--	6,650.0
1987	--	7,952.8
1988-1992	--	-0-
Total	--	$ 25,823.4

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Centrally Procured Equipment	Various	$ 7,952.8

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(8)	Fiscal Year 1987	NAS Plan: VI-16 (Planned)

Program Title: Airport Datum Monument Program

Amount: $1,500,000 Locations: 300

Basis for Request: Accurate positional data is essential to the operation of automated navigation and air traffic control (ATC) systems and it is critical that both airborne and ground base data coincide. New navigational/ATC systems have created an urgent need for additional positional data at an increased level of accuracy.

Description of Problem: Basic data is derived from the airport obstruction (OC) survey program conducted by the National Ocean Service (NOS). The extremely accurate data is tied to the North American Datum (NAD) system and is used as a matrix for the positioning of all data on aeronautical charts and digital data used in the ATC system. NOS capability is limited. Surveys are available for only 733 of the 2,500 airports that require data - those airports with instrument approach procedures.

Description of Solution: Provide $1,500,000 to establish survey monuments on 300 airports in fiscal year 1987. The program, beginning in fiscal year 1985 and continuing through fiscal year 1992, will establish survey monuments on each of approximately 1,700 airports tying them to North American Datum. The work will be accomplished by the National Geodetic Survey (NGS) under a reimbursable agreement.

Benefits: (1) Will provide greatly improved accuracy for 1,700 airports to meet requirements and tie these airports into North American Datum (NAS); (2) Will directly support instrument approach procedures automation program and tie procedures into NAD; (3) Will directly support new airborne navigation system: Inertial navigation, flight management systems, etc.; (4) Will provide improved accuracy for controller chart supplement (CCS) used for ATC adaptation data; and (5) Will permit the contracting of airport obstruction surveys by commercial contractors to meet expanded digital data requirements.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	100	559.0
1986	191	957.0
1987	300	1,500.0
1988-1992	1,109	5,543.0
Total	1,700	$ 8,559.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Funds NGS activities to establish precision survey monuments	300 airports	$ 1,500.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(9) Fiscal Year 1987 NAS Plan: VI (Planned)

Program Title: Major Leases, Utilities, and Other Equipment Rental

Amount: $16,000,000 Locations: Various

Basis for Request: Various types of direct logistical support, including lease of land and facilities, are required for FAA operational and capital improvement programs.

Description of Problem: Logistical support is required at the Mike Monroney Aeronautical Center, the Mike Monroney Aeronautical Center/Management Training School, the FAA Technical Center, and at the miscellaneous other sites.

Description of Solution: Provide $16,000,000 for lease payments at the Mike Monroney Aeronautical Center, the Mike Monroney Aeronautical Center/Management Training School, utility charges at the FAA Technical Center, as well as funds for various leased sites, miscellaneous equipment rental, and attendant utility charges.

Benefits: Provision of funds for lease, equipment rental, and utility payments will provide support required for effective and efficient conduct of operational and capital programs.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	--	16,000.0
1988-1992	--	80,000.0
Total	--	$96,000.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity/ Tasks	Estimated Cost ($000)
1. Lease at Mike Monroney Aeronautical Center	$ 4,710.3
2. Utilities for the Aeronautical Center	3,866.5
3. Lease at Management Training School	2,187.8
4. Utilties for the FAA Technical Center	2,930.8
5. Other Site and Equipment Rental	1,431.0
6. Other Utilities	873.6
Total	$ 16,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5b(10) Fiscal Year 1987 NAS Plan: VI-4

Program Title: Provide Maintenance Control Centers (MCC)

Amount: $5,500,000 Locations: Various

Basis for Request: Most Airway Facilities in the National Airspace system are maintenance supported by a highly decentralized work force with most maintenance actions occurring on-site, being performed by technicians located in close proximity to the particular facility.

Description of Problem: With the advent of Remote Maintenance Monitoring and consolidations of the Airway Facilities field work force, there is a need to provide for central locations from which National Airspace System facilities may be maintained. Since it is now possible to monitor facility performance and make corrective parameter adjustments from a remote location, this capability will allow the field work force to be more centrally located and the requirements of NAS performance monitoring to be more efficiently accommodated. In addition, the ability to remotely monitor many facilities over a wide geographic area enhances the capability to manage and deploy maintenance resources more efficiently.

Description of Solution: Provide $5,500,000 for the establishment of Maintenance Control Centers (MCC) at Airway Facilities field locations. These MCCs will be the central management locations for all maintenance and control activities for remotely monitored facilities in their geographic areas, and will have access to automated maintenance management data bases including automated maintenance record keeping, periodic maintenance scheduling, and supply support resources.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems and deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	5,500.0
1987	--	5,500.0
1988-1992	--	-0-
Total	--	$ 11,000.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Regionally established Maintenance Control Centers	$ 5,500.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5c(1) Fiscal Year 1987 NAS Plan: VI-13

Program Title: Provide Systems Engineering and Integration Support

Amount: $82,500,000 Locations: Various

Basis for Request: The National Airspace System Plan specifies the need for a total system approach which will accommodate future demands and technology, improve vital safety services, increase productivity, and constrain costs.

Description of Problem: The services of systems engineering, systems integration, and management support contractors are required to implement the operational equipment, computer programs, procedures, documentation, and support activities of the NAS Plan.

Description of Solution: Provide $82,500,000 to fund FY 1987 activities of a multiyear program to procure necessary expertise in all phases of the NAS Plan implementation, from functional analysis through functional system design, equipment specification, preparation of procurement documentation, proposal evaluation, performance validation, transition planning and implementation, system acceptance and certification, and logistics and training support. This request also includes funding for on-going SEI activities which were previously funded under the R,E&D appropriation.

Benefits: Provides technical and management support to FAA project/program managers for the efficient and timely implementation of the National Airspace System Plan.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	15,300.0 a/
1985	--	64,250.0
1986	--	64,400.0
1987	--	82,500.0
1988-1992	--	459,200.0
Total	--	$685,650.0

a/ SEI contract was funded in FY 1984 using funds which were reprogrammed from the FY 1983 appropriation.

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
1. Centrally Procured SEI Prime Contractor	$ 77,100.0
2. Centrally Procured SEI Support Contractor	5,400.0
	$ 82,500.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5c(2)   Fiscal Year 1987   NAS Plan: VI-16

Program Title: Improve Air Navigational Aids and Air Traffic Control Facilities

Amount: $2,300,000   Locations: Various

Basis for Request: To enhance safety, efficiency, and economy in operation and maintenance of the air traffic control system, various relatively low cost improvements are needed nationwide. These improvements will accommodate operation and maintenance improvements not of a recurring nature.

Description of Problem: Various local and relatively minor improvements, restorations and alterations must be made to many of the over 22,000 commissioned air navigation and air traffic control facilities located throughout the 50 states. The following improvements are typical: (a) make minor improvements to air traffic control positions in Air Traffic Control Towers on Air Route Traffic Control Centers; (b) raise or relocate air/ground communications antennas to reduce frequency interference; (c) correct fire hazards and improve security; and, (d) correct minor design deficiencies in faacilities and equipment.

Description of Solution: Provide $2,300,000 for various improvement projects for which requirements often develop without advance notice and demand immediate action.

Benefits: This is a collection of improvement projects required to keep the National Airspace System facilities efficient and up-to-date. The projects are mainly for correction of site specific problems and deficiencies.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 1,500.0
1983	--	2,000.0
1984	--	2,000.0
1985	--	2,200.0
1986	--	2,201.0
1987	--	2,300.0
1988-1992	--	12,700.0
Total	--	$ 24,901.1

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Regional Site Work	Various	$ 2,300.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5c(3) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Provide Air Navigational Facility/Air Traffic Control System Support

Amount: $7,000,000 Locations: Various

Basis for Request: Essential continuity of air traffic services provided by the Federal Aviation Administration and associated air traffic control system reliability require expeditious accomplishment of the expanded and more complex facilities and equipment program.

Description of Problem: As the air navigation/air traffic control systems are expanded, technical assistance is required to support system implementation. These support functions involve engineering services for: (a) the update or modification of production specifications for equipment procurement; (b) identification of key test equipment and logistics support requirements; (c) system standards for construction and installation; (d) improvements for maintainability and reliability; (e) design of interface where several programs are involved; and, (f) operational test and evaluation support.

Description of Solution: Provide $7,000,000 for engineering, design, and analysis and operational test and evaluation in order to expedite program completion, correct deficiencies, and provide interface design support during field implementation.

Benefits: The major benefit is the capability to respond effectively to in-house engineering design and analysis problems of an urgent and unexpected nature.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 2,000.0
1983	--	5,000.0
1984	--	5,000.0
1985	--	5,500.0
1986	--	5,550.6
1987	--	7,000.0
1988-1992	--	39,500.0
Total	--	$ 69,550.6

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Centrally Procured Services	$ 7,000.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 5c(4) Fiscal Year 1987 NAS Plan: VI-15

Program Title: Provide Frequency and Spectrum Engineering

Amount: $900,000 Locations: Various

Basis for Request: Long range planning is required to acquire and retain the radio frequency spectrum for aeronautical systems, and to provide spectrum management guidance to both agency personnel and various national/international forums.

Description of Problem: The radio frequency spectrum is a limited resource that faces continually increasing congestion and competition among its users. Careful planning is required to avoid problems with interference, poor propagation, the unavailability of spectrum for particular applications, burdensome regulations, and the inefficient use of the spectrum. Existing and new systems are impacted by frequency modifications to the frequency allocation tables that will accommodate new systems and changes to existing systems.

Description of Solution: Provide $900,000 to: (a) conduct aeronautical band studies to identify interference thresholds; (b) provide applications engineering analyses of radio frequency propagation and electromagnetic compatibility; (c) provide criteria for collocating air-ground communications facilities; (d) provide electromagnetic compatibility characterization of the radio frequency environment; and, (e) provide a handbook for determining radio coverage.

Benefits: The major benefits are effective management of the radio spectrum, electromagnetic compatibility, and non-interference transitioning of new systems into the National Airspace System.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	400.0
1984	--	400.0
1985	--	400.0
1986	--	1,622.0
1987	--	900.0
1988-1992	--	5,000.0
Total		$ 8,722.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Centrally Procured Services	$ 900.0

Project	Locations	Amount	Page No.
6. Aircraft and Related Equipment			
a. Facilities Flight Inspection			
(1) Procure and Install Inertial Sensor Systems	26 Systems	$ 3,881,300	F&E-74
(2) Procure and Install Airborne Microwave Landing System	19 Systems	1,390,000	F&E-75
(3) Procure and Install Airborne TACAN Bearing Units	30 Systems	1,770,000	F&E-76
(4) Procure and Install Multiple En Route Automatic Flight Inspection System	1 System	1,625,000	F&E-77
(5) Procure and Install Airborne LORAN C System	15 Systems	425,000	F&E-78
	Activity Total	$ 9,091,300	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 6a(1) Fiscal Year 1987 NAS Plan: VI-12

Program Title: Procure and Install Inertial Sensor System

Amount: $3,881,300 Systems: 26

Basis for Request: The flight inspection aircraft utilizes an Inertial Sensor Unit (ISU) for position determination in the Automatic Flight Inspection System (AFIS).

Description of Problem: The present ISU's have been in use for approximately 15 years. These units employ an electromechanical gyroscope and gimbal assembly with close tolerance accuracies. The ISU's have been a high cost maintenance item with decreasing performance reliability attributable to age of the equipment. The decreasing reliability is causing an increase in reflights to ensure the accuracy of the National Airspace System (NAS).

Description of Solution: Provide $3,881,300 to procure and install the new ISU platform in agency flight inspection aircraft.

Benefits: The new laser ISU's are of solid state design, eliminating the high wear mechanical movements of the existing platform. This will provide for greater accuracies in position determination and the resultant increase in measurement accuracies of flight inspection parameters. This will ensure greatest possible accuracy of the navaid facilities supporting the NAS.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	26 Systems	$ 3,881.3
1988-1992	16 Systems	2,607.7
Total	42 Systems	$ 6,488.3

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Procure and Install Inertial Sensor System	26 Systems	$ 3,881.3

FACILITIES AND EQUIPMENT
[illegible]

Budget Item No: [illegible]   Fiscal Year: 1987   NAS Plan: [illegible]

Program Title: Procure and Install Airborne Microwave Landing System

Amount: $1,[illegible]   Systems: [illegible]

Basis for Request: Microwave Landing System (MLS) has been adopted by the FAA and International Civil Aviation Organization (ICAO) as the standard precision landing aid.

Description of Problem: The agency flight inspection aircraft are not equipped with MLS. It is necessary for regional and training aircraft to be equipped with MLS in order to demonstrate its operation to field inspection and permit evaluation of MLS use in the National Airspace System (NAS) by regional staff.

Description of Solution: Provide $1,[illegible] to procure and install airborne MLS in agency flight inspection aircraft.

Benefits: The installation of airborne MLS in agency aircraft will ensure the field inspection expertise and ability to evaluate precision approaches as provided by these new state-of-the-art facilities. This will ensure that these NAS user services are available in the most effective and efficient manner.

APPROPRIATION SUMMARY

Year	Locations	Amount (000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	[illegible] Systems	$ 1,[illegible]
1988-1992	[illegible] Systems	1,[illegible]
Total	[illegible] Systems	$ [illegible]

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost (000)
Procure and Install Microwave Landing Systems	[illegible] Systems	$ 1,[illegible]

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No. 4a(3)　　Fiscal Year 1987　　NAS Plan: VI-12

Program Title: Procure and Install Airborne TACAN Bearing Units

Amount: $1,770,000　　Systems: 30

Basis for Request: TACAN navigation facilities are a component of the National Airspace System (NAS) in support of en route and nonprecision terminal approaches.

Description of Problem: The present TACAN receivers are not compatible with new digital flight control systems, nor Electronic Flight Instrumentation System (EFIS). In addition to quality assurance of the facility in its role of supporting the NAS, the agency's Automatic Flight Inspection System utilizes these ground facilities to update positioning data. The continued use of present TACAN receivers would preclude use of the upgraded Navigation Computer Unit (NCU) as the system controller for Multiple En Route Automatic Flight Inspection System (MAFIS).

Description of Solution: Provide $1,770,000 to procure and install new TACAN receivers in flight inspection aircraft.

Benefits: The TACAN receivers would facilitate the use of the new upgraded NCU as the primary component of the MAFIS. In addition, because of the latest state-of-the-art, the receiver will provide, within a unit, the signal outputs to replace four components of the existing airborne TACAN system.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	30 Systems	$ 1,770.0
1988-1992	--	-0-
Total	30 Systems	$ 1,770.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Procure and Install TACAN	30 Systems	$ 1,770.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 6a(4)   Fiscal Year 1987   NAS Plan: VI-12

Program Title: Procure and Install Multiple En Route Automatic Flight Inspection System

Amount: $1,625,000   Systems: 1

Basis for Request: The VOR/TACAN navigation equipment provides en route and terminal navigational support for the National Airspace System (NAS). The quality assurance of these navigation facilities is provided by in-flight inspection of their performance.

Description of Problem: Portions of the existing Semi-Automatic Flight Inspection (SAFI) system is 25 years old. This system uses several VOR and TACAN receivers to sample the electronic signal in space. This data is recorded on magnetic tape and transferred by surface means for post-flight computer processing. This process, in some cases, delays completed analysis of facility performance as much as 1 week. Some components are out of production and results in excessive maintenance burden.

Description of Solution: Provide $1,625,000 to procure and install MAFIS equipment in one aircraft. This is a multiyear program and a second system will be requested in a future budget.

Benefits: Technological advances now make it possible to install real-time data recording and processing systems capable of performing all required functions. This will permit flight inspection productivity by resolving anomalies with instant reflights rather than costly return flights to the area of concern. It will also ensure the accuracy of the NAS facilities immediately.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	1	$ 1,625.0
1988-1992	--	-0-
Total	1 System	$ 1,625.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Procure and Install Multiple En Route Automatic Flight Inspection System	1 System	$ 1,625.0

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 6a(5)   Fiscal Year 1987   NAS Plan: VI-12

Program Title: Procure and Install Airborne LORAN C System

Amount: $425,000   Systems: 15

Basis for Request: LORAN C navigation system has been adopted by the FAA as an en route and nonprecision terminal approach navigation aid.

Description of Problem: The agency nonflight inspection aircraft are not equipped with LORAN-C. It is necessary for regional and training aircraft to be equipped with LORAN C in order to demonstrate its operation to the field inspectors and permit evaluation of LORAN C use in the National Airspace System (NAS) by regional staffs.

Description of Solution: Provide $425,000 to procure and install LORAN C equipment in agency nonflight inspection aircraft.

Benefits: The installation of airborne LORAN C equipment in agency nonflight inspection aircraft will ensure FAA field inspectors expertise and ability to evaluate nonprecision approaches, as provided by this new facility in the NAS. This will ensure that these NAS user services are available in the most effective and efficient manner.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	-0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	15 Systems	$ 425.0
1988-1992	16 Systems	425.0
Total	31 Systems	$ 850.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Location/ Quantity	Estimated Cost ($000)
Procure and Install Airborne LORAN C System	15 Systems	$ 425.0

Project	Locations	Amount	Page No.
7. Development, Test and Evaluation			
a. Buildings, Construction, and Improvements			
(1) FAA Technical Center, Technical Building - Lease	1	$ 5,290,000	F&E-80
(2) Provide Airport Improvements	1	500,000	F&E-81
(3) Environmental Cleanup Action	1	2,000,000	F&E-82
b. Equipment			
(1) Advanced Automation System (AAS) Lab Reconfiguration	1	2,000,000	F&E-83
(2) Special Component Evaluation System	1	500,000	F&E-84
(3) Procure Engineering Services Support Equipment	1	287,000	F&E-85
	Activity Total	$10,577,000	

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7a(1)   Fiscal Year 1987   NAS Plan: VI-16

Program Title: FAA Technical Center Technical Building - Lease

Amount: $5,290,000   Locations: 1

Basis for Request: The objective of the FAA Technical Center Improvement Program is to modernize and consolidate facilities and buildings, to reduce costs, and to increase operating efficiency. The improvement program will provide modern facilities to conduct the expanded test and evaluation functions assigned to the Technical Center which are needed to accomplish the National Airspace System Plan.

Description of Problem: In a formal agreement between the Federal Aviation Administration and the Atlantic County Improvement Authority, a 20-year lease/purchase agreement was entered into for building the Center's new Technical Building. The building was completed in 1980 and the annual cost of the lease is $5,290,000.

Description of Solution: Provide $5,290,000 for the Technical Building lease for FY 1987.

Benefits: The Technical Building replaced 36 obsolete and widely dispersed WWII temporary buildings. The new Technical Building provides improved efficiency, lower operating costs, and expanded facilities to meet future R&D needs.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ 3,703.0
1983	--	3,700.0
1984	--	5,290.0
1985	--	5,290.0
1986	--	5,290.0
1987	--	5,290.0
1988-1992	--	26,450.0
Total	ACT a/	$ 55,013.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Lease Payment	$ 5,290.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7a(2) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Provide Airport Improvements

Amount: $500,000 Locations: 1

Basis for Request: The FAA owns and operates the Atlantic City Airport. The airport provides flight test support to FAA technical project work. In addition, facilities are provided to military, commuter, commercial airline, and general aviation aircraft using the Atlantic City Municipal Terminal.

Description of Problem: Runway 13-31 and Taxiways B, C, I, J, & K received a bituminous concrete overlay in 1981. In those areas where the overlay was placed directly over existing portland cement concrete construction joints or existing bituminous concrete pavement cracks, reflective cracking has begun to propagate through the new overlay pavement. The eventual appearance of these reflective cracks was anticipated. However, a cost analysis performed at the time of the design indicated that it would be more economical to institute a pavement resealing program rather than to modify the design to provide for a greater overlay thickness (approximately $3-$4 million one time cost). This modification would only have retarded or delayed the appearance of the first reflective cracks.

If the cracks are not sealed, continued exposure to moisture infiltration due to both rain and to the local freeze/thaw cycle will cause an acceleration in the growth of the crack size and the deterioration of the overall pavement condition.

Description of Solution: Provide $500,000 to seal all reflective cracks on Runway 13-31 and associated taxiways.

Benefits: Economical treatment of a problem before continued deterioration requires more extensive repairs.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	10,300.0
1984	--	-0-
1985	--	-0-
1986	--	430.4
1987	--	500.0
1988-1992	--	2,710.0
Total	ACT a/	$ 13,940.4

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Construction Contract	$ 500.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7a(3) Fiscal Year 1987 NAS Plan: VI-16

Program Title: Environmental Cleanup Action

Amount: $2,000,000 Locations: 1

Basis for Request: A detailed assessment study performed by the U.S. Environmental Protection Agency (USEPA) and the New Jersey Department of Environmental Protection (NJDEP) has identified several sites at the Technical Center as requiring a cleanup of soil and ground water pollution. This pollution has occurred over the years, predominately from fuel spills. The Technical Center is under a "consent order" from NJDEP to take expeditious remedial action to prevent future spills and to clean up the present situations.

Description of Problem: Five contaminated sites were discovered in 1984 when the Atlantic City Municipal Utilities Authority had a report done in preparation for locating nine more wells on the Technical Center grounds. The report stated that the contamination represents minimal pollution effect to the planned wells, which would tap a deep acquifier. However, starting about 1988, pollution from some of the FAA's activities would contaminate the Atlantic City Reservoir nearby, which draws on shallow groundwater.

Description of Solution: Provide $2,000,000 to award contracts to clean up the most critical sites now posing a threat to the Atlantic City water supply in accordance with the NJDEP's Consent Order and to provide for the management of hazardous waste products. The Technical Center has utilized the $1.1 million obtained in FY 1984 to comply with the EPA's Consent Order to provide spill prevention and containment facilities to prevent and/or contain spills in high risk areas.

Benefits: The Technical center will be in compliance with State and Federal regulations concerning spill prevention and containment, and the cleanup of contaminated sites that threaten the Atlantic City water supply will be initiated.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	1,096.0
1985	--	-0-
1986	--	-0-
1987	--	2,000.0
1988-1992	--	2,400.0
Total	ACT a/	$ 5,496.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Contract for the physical cleanup of contaminated sites	$ 2,000.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7b(1)　　Fiscal Year 1987　　NAS Plan: VI-17

Program Title: Advanced Automation System (AAS) Lab Reconfiguration

Amount: $2,000,000　　Locations: 1

Basis for Request: The AAS Program will have a contractor deliver 60-100 sector suites and several computer systems to the FAA Technical Center. Other contractors will deliver other systems (e.g., VSCS) to be interfaced with the AAS. These air traffic control systems will be tested and evaluated and then used to provide support to operational field facilities.

Description of Problem: Approximately 20,000 square feet of laboratory space at the Technical Center must be reconfigured in stages to install a number of separate, but electronically interfaced, controller display laboratories and computer complexes. The physical and electrical laborabory environment must be modified; existing systems must be moved or removed; and new systems, the AAS and systems interfaced to it, must be installed.

Description of Solution: Provide $2,000,000 for equipment and labor required to reconfigure the FAA Technical Center laboratory to accommodate the AAS and systems interfaced to it.

Benefits: The reconfigured laboratory will accommodate major new air traffic control systems scheduled in the National Airspace System Plan for test, evaluation, and support at the Technical Center.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	--	2,000.0
1988-1992	--	-0-
Total	ACT a/	$ 2,000.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
1. Engineering Services	$ 600.0
2. Construction Contract	600.0
3. Equipment Procurement	800.0
	$ 2,000.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7b(2)   Fiscal Year 1987   NAS Plan: VI-16

Program Title: Special Component Evaluation System

Amount: $500,000   Locations: 1

Basis for Request: New transport aircraft are incorporating state-of-the-art fuel system concepts which provide improved thrust management and fuel scheduling/metering for all engine operating conditions. New technology fuel sytstem components are used in these systems. Criteria must be developed to assist the regions in determining the adequacy of the current certification procedures for these new fuel systems.

Description of Problem: There exists a gap in the capabilities of the Engine/Fuel Test Complex at the FAA Technical Center for fuel system component tests. On certain past projects, testing of components have utilized alternate methods not specifically suited for the purpose resulting in numerous project compromises.

Description of Solution: Provide $500,000 for additional equipment to establish an evaluation system for component analysis in the Engine/Fuel Test Complex.

Benefits: The major benefits will be in the support of the agency's regulatory action through improved analysis of engine safety measures. This system will provide a means to test fuel system components with varying conditions simulating typical operational parameters. Parameters to be monitored include on-line viscosity, pressure, temperature, flow rate, control transient operations, and engine light-off regime performance. The system will control fuel system components to present flow rates and pressure allowing precision measurements of fuel characteristics of both regular fuel and modified.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	-0-
1984	--	-0-
1985	--	-0-
1986	--	-0-
1987	--	500.0
1988-1992	--	-0-
Total	ACT a/	$ 500.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Procure and Install Electronic Equipment	$ 500.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

Budget Item No: 7b(3)   Fiscal Year 1987   NAS Plan: VI-18

Program Title: Procure Engineering Services Support Equipment

Amount: $287,000   Locations: 1

Basis for Request: Many of the new equipment systems to be introduced into the National Airspace System (NAS) will be tested at the FAA Technical Center. In addition, Research and Development (R&D) and NAS improvements projects will be conducted. All of these tests require adequate test equipment capable of being calibrated.

Description of Problem: Engineering test and calibration equipment requires upgrading with state-of-the-art equipment to support the test and evaluation of systems procured under the NAS Plan as well as the R&D and NAS Improvement Projects. The procurement of general purpose test equipment such as digital oscilloscopes, logic analyzers, data communications line analyzers, etc., by a centralized pool facility to all project areas enhances the technical capabilities of the Center with a minimum duplication of purchases by each project. Specialized test equipment is provided by individual projects on an as needed basis.

Description of Solution: Provide $287,000 to procure general purpose test equipment for the Technical Center.

Benefits: A centralized test equipment pool will reduce maintenance costs, provide optimum utilization of equipment, and facilitate regular calibration services.

APPROPRIATION SUMMARY

Year	Locations	Amount ($000)
1982	--	$ -0-
1983	--	150.0
1984	--	-0-
1985	--	235.0
1986	--	275.0
1987	--	287.0
1988-1992	--	1,641.0
Total	ACT a/	$ 2,588.0

COST ESTIMATE OF WORK TO BE FUNDED THIS YEAR

Activity Tasks	Estimated Cost ($000)
Equipment Procurement	$ 287.0

a/ All work/services to be performed at Federal Aviation Administration Technical Center (ACT).

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Research, Engineering and Development (Airport and Airway Trust Fund)

(Including Transfer of Funds)

For necessary expenses, not otherwise provided for, for research, engineering, and development, in accordance with the provisions of the Federal Aviation Act (49 U.S.C. 1301-1542), including construction of experimental facilities and acquisition of necessary sites by lease or grant, $134,500,000, to be derived from the Airport and Airway Trust Fund and to remain available until expended [,$190,000,000, together with $15,000,000 to be transferred from unobligated balances of "Facilities and equipment", of which $3,036,412 shall be available for icing and related next generation weather radar atmospheric research to be conducted by the University of North Dakota, $2,000,000 shall be available for the Center for Research and Training in Information-based Aviation and Transportation Management at Barry University and $2,000,000 shall be available for the Institute for Aviation Safety Research at Wichita State University]: Provided, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities, and private sources, for expenses incurred for research, engineering and development.

(Department of Transportation and Related Agencies Appropriation Act, 1986, as included in Public Law 99-190.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RESEARCH, ENGINEERING AND DEVELOPMENT
(AIRPORT AND AIRWAY TRUST FUND)
Program and Financing (in thousands of dollars)

Identification code 69-8108-0-7-402	19 73 actual	19 74 estimate	[illegible]
Program by activities:			
Direct program:			
00.01 Air traffic control	66,094	57,396	70,907
00.02 Advanced computer	168,237	99,811	22,895
00.03 Navigation	7,211	3,890	6,210
00.04 Aviation weather	13,330	9,400	6,770
00.05 Aviation medicine	3,319	4,793	3,767
00.06 Aircraft safety	17,237	28,496	23,463
00.07 Environment	1,938	2,094	1,600
00.91 Total direct program	277,384	205,874	134,500
01.01 Reimbursable program	450	1,800	1,800
10.00 Total obligations	277,834	207,674	136,300
Financing:			
Offsetting collections from:			
11.00 Federal funds	-400	-1,200	-1,200
14.00 Non-Federal sources	-50	-600	-600
21.40 Unobligated balance available, start of year	-13,260	-874	-----
22.40 Unobligated balance transferred net	------	-15,000	-----
24.40 Unobligated balance available, end of year	874	------	-----
40.00 Budget authority (appropriation)	265,000	190,000	134,500

RED-2

STANDARD FORM 300

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RESEARCH, ENGINEERING AND DEVELOPMENT
(AIRPORT AND AIRWAY TRUST FUND)
Financing and Outlays (in thousands of dollars)

[illegible]	[illegible]	[illegible]	[illegible]
Relation of obligations to outlays:			
71.00 Obligations incurred, net	[illegible]	[illegible]	[illegible]
72.40 Obligated balance, start of year	[illegible]	[illegible]	[illegible]
74.40 Obligated balance, end of year	[illegible]	[illegible]	[illegible]
90.00 Outlays	[illegible]	[illegible]	[illegible]

[illegible]

(in thousands of dollars)

Enacted/requested:			
Budget authority	[illegible]	[illegible]	[illegible]
Outlays	[illegible]	[illegible]	[illegible]
Reduction pursuant to PL 99-177:			
Budget authority	......	[illegible]	......
Outlays	......	[illegible]	[illegible]
Total:			
Budget authority	[illegible]	[illegible]	[illegible]
Outlays	[illegible]	[illegible]	[illegible]

FAA

[illegible]

[illegible]

[illegible]

[illegible]

1. [illegible]

   [illegible]

2. [illegible]

3. [illegible]

4. [illegible]

5. [illegible]

[illegible]

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

6. Aircraft safety - This activity covers the development of technical data to support development of regulations for an accident prevention program designed to promote flight safety of civil aircraft. Development of systems and devices to prevent and deter sabotage in the civil air transportation system will also continue. Funds requested will continue research in fire safety, including cabin fires, and will continue research in air transport, general aviation, and flight safety.

7. Environment - Principal efforts under this activity are the development of data to support rulemaking and to minimize the undesired environmental effects on the public attributable to the air transportation system. Research will continue into air pollution and noise control, primarily associated with certification and enforcement requirements.

STANDARD FORM 300

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RESEARCH, ENGINEERING AND DEVELOPMENT
(AIRPORT AND AIRWAY TRUST FUND)
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-8108-0-7-612	1975 actual	1976 estimate	1977 estimate
Direct obligations: Personnel compensation:			
11.1 Full-time permanent	26,030	27,625	22,777
11.3 Other than full-time permanent	476	602	350
11.5 Other personnel compensation	562	483	556
11.8 Special personal services payment	234	341	348
11.9 Total personnel compensation	27,300	29,111	24,031
12.1 Personnel benefits: Civilian	2,622	3,050	3,145
21.0 Travel and transportation of persons	1,728	2,711	2,924
22.0 Transportation of things	294	136	150
23.2 Rental payments to others	----	----	----
23.3 Communications, utilities, and other rent	224	205	224
24.0 Printing and reproduction	39	4	4
25.0 Other services	241,283	167,226	100,276
26.0 Supplies and materials	1,522	1,830	2,336
31.0 Equipment	2,383	751	1,398
99.0 Subtotal, direct obligations	277,386	205,874	134,500
99.0 Reimbursable obligations	450	1,800	1,800
99.0 Total obligations	277,836	207,674	136,300

STANDARD FORM 300

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RESEARCH, ENGINEERING AND DEVELOPMENT
(AIRPORT AND AIRWAY TRUST FUND)
PERSONNEL SUMMARY

Identification code 69-8108-0-7-402	1985 actual	1986 estimate	1987 estimate
DIRECT:			
Total number of full-time permanent positions..........................	* 845	845	645
Total compensable workyears:			
Full-time equivalent employment....	663	691	552
Full-time equivalent of overtime and holiday hours...............	7	7	7
REIMBURSABLE:			
Total number of full-time permanent positions..........................	8	8	8
Total compensable workyears:			
Full-time equivalent employment....	6	13	13

RED-7

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RESEARCH, ENGINEERING AND DEVELOPMENT
(AIRPORT AND AIRWAY TRUST FUND)
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-2105-0-7-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations...............	.....	-8,170	.....
Financing:			
40.00 Budget authority (appropriation)	.....	-8,170	.....
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	.....	-8,170	.....
72.40 Obligated balance, start of year.........................	.....	.....	-4,034
74.40 Obligated balance, end of year..	.....	4,034	766
90.00 Outlays......................	.....	-4,136	-3,268

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

RED-8

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RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

Comparative Summary of Appropriations
(Dollars in Thousands)

		FY 1986 Enacted	FY 1986 After Sequestering	FY 1986 Adjust. c/	FY 1987 Request
1.	Air Traffic Control a/	$57,283	$54,819	$69,699	$70,805
	Air Traffic Control	55,283	52,905	67,785	
	Barry University	2,000	1,914	1,914	
2.	Advanced Computer	$99,737	$95,448	$80,870	$22,895
	Host Computer	3,218	3,080	1,498	
	Advanced Automation System	92,519	88,540	75,544	
	AAS Study	4,000	3,828	3,828	
3.	Navigation	$3,890	$3,723	$5,072	$6,218
4.	Aviation Weather	$8,890	$8,508	$10,210	$6,770
	Aviation Weather	1,964	1,880	1,622	
	University North Dakota	3,036	2,905	2,905	
	Doppler Weather Radar	3,890	3,723	5,683	
5.	Aviation Medicine	$4,749	$4,545	$5,242	$3,767
6.	Aircraft Safety	$13,451	$12,873	$23,003	$22,445
	Aircraft Safety	11,451	10,959	21,089	
	Wichita State University	2,000	1,914	1,914	
7.	Environment	$2,000	$1,914	$2,734	$1,600
TOTAL		$190,000 b/	$181,830	$196,830 d/	$134,500

a/ TCAS is included as a portion of Air Traffic Control PPA.
b/ Excludes $15 million transferred from F&E
c/ FY 1986 adjustments are required to accommodate Congressionally-mandated items (AAS study and colleges and universities), Gramm-Rudman-Hollings reductions, as well as other priority adjustments.
d/ Includes $15 million transferred from F&E

RESEARCH, ENGINEERING AND DEVELOPMENT APPROPRIATION

Organizational/Functional Bridge - Budget Authority
(Dollars in Thousands)

Budget Authority	Total		Systems Engineering Service		Engineering and Maintenance Service		Office of Environment and Energy		Advanced Computer		Aviation Medicine	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount
Air Traffic Control	262	$ 70,805	99	$15,742	143	$13,353			20	$41,710		
Advanced Computer	87	22,895							87	22,895		
Navigation	62	6,218			62	6,218						
Aviation Weather	45	6,770			45	6,770						
Aviation Medicine	74	3,767									74	$3,767
Aircraft Safety	115	22,445			115	22,445						
Environment	...	1,600					....	$1,600				
Total 1987 Estimate	645	$134,500	99	$15,742	365	$48,786	....	$1,600	107	$64,605	74	$3,767

Distribution of Positions by Location:

Washington...........	190
Technical Center.....	381
Aeronautical Center..	74
	645

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

	Budget Authority	Planned Obligations
Air Traffic Control	$ 70,805,000	$ 70,805,000
Advanced Computer	22,895,000	22,895,000
Navigation	6,218,000	6,218,000
Aviation Weather	6,770,000	6,770,000
Aviation Medicine	3,767,000	3,767,000
Aircraft Safety	22,445,000	22,445,000
Environment	1,600,000	1,600,000
TOTAL	$134,500,000	$134,500,000

General Justification

This request reflects domestic and international requirements to make air travel safer and to increase the efficiency of Air Traffic Control (ATC) system. The projects included under this appropriation request are consistent with the National Airspace System Plan. The major thrust of the FY 1987 budget request is directed toward: providing the development of a new automation system necessary to meet the demand for air traffic control services in the late 1980's and beyond; accomplishment of operational testing of the Traffic Alert and Collision Avoidance System (TCAS); modernizing communications systems; developing a national aviation data link standard for providing aviation related services to inflight aircraft; developing radars for the detection and tracking of severe weather; and formulating and analyzing concepts for future traffic control systems. This request also includes funds required for: aircraft safety, including fire safety, transport and general aviation safety, and expedited research into explosive and weapon detection; minimization of environmental consequences as a result of aviation; and research into biomedical factors related to aircraft accidents, injuries and fatalities and research into the optimization of factors related to selection, training, retention and performance of air traffic controllers as well as to understand the human performance process in cockpits.

The financial resources needed to meet these major commitments and other future needs include the following: development of advanced computer systems - $22.9 million; continued development of the Traffic Alert and Collision Avoidance System (TCAS) - $4.3 million; airborne windshear detection and avoidance, continued evaluation of approach and landing systems - $2.9 million; systems engineering validation of technical, economic and operational requirements for future air traffic control systems and formulating and analyzing concepts for future traffic control systems - $20.6 million; improving the design, layout and construction of runways - $3.1 million; improving the acquisition, distribution and display of weather data - $6.8 million; evaluation of navigation systems as or possible future replacements for the present Very High Frequency Omnidirectional Radio Range/Distance Measuring Equipment (VOR/DME) air navigation systems - $3.3 million; continued development of the Voice Switching and Control System, the air/ground transfer of digital data through a data link capability, and enhancements to the National Airspace Data Interchange Network that provides for the transfer of digital data between ground facilities to meet existing and future communications needs - $36.4 million; medical research programs $3.8 million; aircraft safety $22.4 million; and environmental efforts - $1.6 million.

	Positions
Fiscal Year 1987	
Research, Engineering and Development	645

The personnel financed under this appropriation are located at the Federal Aviation Administration Technical Center, Atlantic City, New Jersey; the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma; and the Washington, D.C. offices of the Federal Aviation Administration (FAA). These personnel fall under three general categories: Program Supervision and Contract Management, Test and Evaluation, and Aeromedical Research.

As key NAS Plan projects transition from their research, engineering and development phase into implementation under the Facilities and Equipment (F&E) Appropriation, R,E&D personnel at the Technical Center who have developed special expertise will be utilized to support certain F&E projects. Utilizing experienced R,E&D personnel in this manner will increase FAA's overall efficiency. In fiscal years 1985 and 1986 the positions remained in the R,E&D account with associated FTE's funded from the F&E Appropriation. In fiscal year 1987 we are requesting the transfer of 200 positions from R,E&D to F&E since the workload will remain in F&E for several years beyond FY 1987.

Program Supervision and Contract Management

These personnel are responsible for technical direction and program management. They are directly concerned with the complex program to develop, and modernize complete systems (or components of systems) as well as to develop future systems to increase the capacity of the nation's airport and airway systems. The primary function of personnel under this category is to manage major technical efforts falling within their area of technical expertise.

Other areas of work require the technical expertise of air traffic controllers, computer system analysts, operations research analysts, meteorologists and mathematicians.

A prime task of personnel under this category is to manage and monitor one, or more, development contracts. These will range in dollar value from as small as $5,000 to several million dollars. The nature and complexity of these contracts, rather than their dollar value, will determine the number which can be supervised by one manager so that the interests of the Government are best protected. The contracts cover such subject areas as data processing systems, communications systems, collision avoidance systems, and improved automation systems.

Test and Evaluation

The Federal Aviation Administration Technical Center requires a staff of engineers, air traffic controllers, computer specialists, physicists, pilots, aircraft mechanics and various skilled technicians. These personnel are engaged in project activities in all phases of air navigation, air traffic control, airport design and development, systems evaluation, communications, weather, and aircraft safety. Flight support of projects is provided by airmen flying and maintaining aircraft ranging from small single-engine aircraft to high-performance jet and turboprop aircraft. Some typical test and evaluation projects are: flight testing and evaluating the performance of collision avoidance and navigation systems; testing of equipment for use in detecting, processing and dissemination of significant weather information, and test and evaluation associated with new automation systems.

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

Aeromedical Research

The aeromedical research efforts of the agency, conducted at the Civil Aeromedical Institute (CAMI), are aimed at controlling the biomedical factors that are causes of, or contribute to, control errors and incidents in the National Airspace System (NAS). They are concerned with flight personnel and air traffic control specialists and their work environment. These programs cover all the broader aspects of biomedical factors related to the airways system, including bio-engineering, psychology, physiology, pharmacology, biochemistry and general medicine to determine the adverse effects of disease and physiologically induced deficiencies on the performance of air traffic control specialists.

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

GENERAL STATEMENT

The Research, Engineering and Development program is comprised of seven major activities: (1) Air Traffic Control, (2) Advanced Computer, (3) Navigation, (4) Aviation weather, (5) Aviation Medicine, (6) Aircraft Safety, and (7) Environment. The objectives of this program are to keep the current system operating safely and efficiently; to modernize the system through improvements in facilities, equipment, techniques, regulations and procedures and to insure that the system will safely and efficiently handle the volume of aircraft traffic expected to materialize in the future.

The realization of these objectives requires that the development of future navigation and traffic control equipment begin with the exploitation of current technology. This includes high-speed modular computers, solid state electronics, digital communications, and satellite applications. Some of these technologies will be used or further developed in FY 1987 programs, including development of advanced computers, automated enroute air traffic control, and other new and enhanced automated aids for air traffic control.

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

Summary of Requirements by Activity

Page No.

1. Air Traffic Control..........16
    - System..........17
    - Aircraft Separation Assurance..........23-1
    - Communications..........25
    - Airport/Airside/Landside..........29
    - EnRoute Control..........31
    - Flight Service Stations..........32
    - Terminal/Tower Control..........33
    - Technology..........34
    - Support..........38
2. Advanced Computer..........40
3. Navigation..........45
    - Navigation..........46
    - Approach and Landing Systems..........48
4. Aviation Weather..........53
5. Aviation Medicine..........62
6. Aircraft Safety..........71
7. Environment..........84

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

1. Air Traffic Control $72,885,000

This activity provides for improving the airways systems by applying existing technology to air traffic control problems to keep the current system operating safely with maximum efficiency and by providing system improvements to increase the capacity of the current system. This activity is critical to meeting the goals and objectives of the National Airspace System (NAS) Plan. This activity is broken down into 9 individual programs as follows:

01 System
05 Aircraft Separation Assurance
06 Communications
08 Airport/Airside/Landside
12 En Route Control
13 Flight Service Stations
14 Terminal/Tower Control
16 Technology
21 Support

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 01 SYSTEM [illegible] RED Plan No. [illegible]
Amount: $[illegible]

Basis for Request:
The objective of this program is to provide the system-level engineering direction and guidance used by FAA in formulating and conducting its research, engineering, and development activities to support the agency's research and development requirements.

Description of Solution:
This program provides the overall system analysis, engineering, planning, and direction for the research and development programs needed to support near-term improvements and long-range modernization of the National Airspace System (NAS). The program includes evaluations of current Air Traffic Control (ATC) system performance, analyses of new operational requirements, definition of functional requirements for new system capabilities, determination of future system performance requirements, engineering of the overall architectural design of the modernized NAS, and conducting benefit versus cost studies for proposed additions to the system. It also includes development of advanced ATC concepts which hold promise for improving the efficiency of the total system and increasing the productivity of the personnel that maintain and operate the ATC system.

The elements included in this program are:

System Engineering and Analyses
System Requirements
Advanced System Concepts

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary
Appropriation history for each program line requested is identified on the following pages addressing this program request.

Cost Estimate
Cost estimates of work to be funded this year as well as the estimate is included in the following pages addressing this program request.

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Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: System NAS Plan No. N/A
Program Element Title: System Requirements
Subprogram Title: Requirements Analysis

Amount: $230,000

Basis for Request:

The continuing objectives of this effort are to develop, maintain, and update the baseline operational requirements documentation of the existing and future National Airspace System (NAS).

Description of Solution:

Potential future requirements for the NAS will be analyzed to determine their technical feasibility, cost effectiveness, and operational impact. New requirements will be obtained from within the agency and from other organizations including the Department of Defense, National Weather Service, Department of State, aviation user organizations, etc. In FY 1986, new proposed operational requirements for systems and subsystems, planned for NAS, were validated and integrated into an existing requirements baseline document. Also, in FY 1986 technological and cost-effectiveness analyses were accomplished in support of aviation weather, rotorcraft, surveillance and data link services.

In FY 1987, system-level analyses will be performed of any proposed new requirements for the NAS and of the capability and suitability of systems and subsystems to meet those requirements. Failure mode analysis will be performed for the NAS to ensure that subsystem failures will not cause unacceptable interruptions of air traffic services. All proposed new requirements will be analyzed and those which are validated and approved will be added to the baseline document for NAS operational requirements.

Benefits:
The benefits of these efforts are increased management visibility and control of new system requirements and the resulting R,E&D programs.

Appropriation Summary

Fiscal Year	Amount
1982	$ 385,000
1983	94,000
1984	61,000
1985	268,000
1986	500,000
1987	230,000
1988-1992	1,631,000
Total	$3,169,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Requirements Analysis	$ 230,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: System NAS Plan No. N/A
Program Element Title: System Requirements
Subprogram Title: System Capacity
Separation Standards
Advanced Navigation Systems

Amount: $4,505,000

Basis for Request:

Translate forecasts of user needs for capacity improvements into NAS subsystem requirements; analyze requirements for airspace separation standards and procedures for the continental U.S. and over-ocean operations; and evaluate current and future aviation navigation system requirements.

Description of Solution:

Provide analyses, simulation, and test to:

(1) increase the capacity of the NAS and improve its capability to handle higher levels of air traffic demand.

In FY 1986, a performance specification was developed for a radar surveillance subsystem that can be used to monitor traffic on parallel approaches to runways separated by a design goal of 3,000 feet. The Parallel Runway final report and recommendations will be completed in FY 1987.

The operational benefits of the Prototype Runway Configuration Management System (RCMS) were evaluated at Chicago O'Hare in FY 1986 to assist terminal controllers in managing the complex runway configurations at major airports. The evaluation was completed in FY 1986 and a report will be published in FY 1987.

(2) validate the safety of current U.S. and international airspace separation standards and develop baseline information for the establishment of new standards.

Both the domestic and international aviation user communities have proposed that the vertical separation standards above 29,000 feet be reduced from 2,000 feet to 1,000, feet, which is used below 29,000 feet. If this reduction can be safely accomplished, it is estimated that the domestic user community will save approximately $60 million per year in reduced fuel consumption. Safety verification flight tests were completed in FY 1986. Analysis of these flight tests will be completed in FY 1987, which will be used to derive the aircraft and system performance requirements necessary to support a safe reduction in vertical separation standards above 29,000 feet. Also, in FY 1987, the United States will submit to the ICAO assembly this safety verification and data analysis for vertical separation to be combined with the worldwide effort for international approval and implementation. A study of the New York, Miami, San Juan oceanic air space not currently included in the minimum navigation performance specification (MNPS) was completed. This study concluded that the lateral separation could safely be reduced to 60 nm resulting in savings of about $7 million per year to the aviation industry.

In FY 1987, work will continue on developing recommendations for separation standards in airspace outside of radar coverage in which aircraft are equipped with area navigation (RNAV) avionics and operating on direct paths. Also in FY 1987, work will begin on developing avionics performance specifications and interface definition for automatic dependent surveillance interfaced with both the Oceanic Display and Planning System and the Advanced Automation System. This effort will be completed in FY 1988.

(3) conduct necessary evaluation to support the selection of future navigation systems mix.

The FAA will participate in the joint DOT/DOD effort to select and publish the joint DOT/DOD recommendations for post-1995 radionavigation systems mix in FY 1987 and publish the Fourth Edition Federal Radionavigation Plan. Also, during this timeframe, we will continue to expand the role of Global Positioning System (GPS) for civil aviation with emphasis on nonprecision approaches and the possibility of the GPS becoming a sole-means navigation system.

Benefits:
System Capacity Improvements--More energy efficient system by reducing the ATC delays due to system capacity limitations.

Separation Standards above flight level 290--$60 million per year in reduced fuel consumption.

Reduction of Horizontal Standards for New York, Miami, San Juan over-ocean routes--$7 million per year in reduced fuel consumption.

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,954,000
1983	2,480,000
1984	4,878,000
1985	3,595,000
1986	4,269,000
1987	4,505,000
1988-1992	30,739,000
Total	$53,420,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
System Capacity	$ 1,152,000
Separation Standards	$ 3,018,000
Advanced Navigation Systems	$ 335,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: System — NAS Plan No. I-13
Program Element Title: Advanced System Concepts
Subprogram Title: Advanced Traffic Management
Automated En Route Air Traffic Control
Advanced System Concepts

Amount: $13,963,000

Basis for Request:
The objectives of this effort are to formulate new concepts for providing future air traffic control services and evaluate these concepts in terms of technical feasibility and costs. For those concepts which are determined to have high potential value in the future NAS, advanced development activities will be conducted which will result in functional specifications for prototype development programs.

Description of Solution:
In conformance with the NAS Plan, these efforts: (1) analyze the traffic flow management process and develop concepts for an Advanced Traffic Management System (ATMS) that will enhance the efficiency of the National Airspace System; (2) develop the concept of Automated En Route ATC (AERA) to use higher levels of automation to improve the efficiency and safety of air traffic control operations as well as to increase the productivity of controllers; and (3) develop an ATC system operational concept based on automatic dependent surveillance.

The Advanced Traffic Management System (ATMS) will link terminal, en route, and national flow management functions to enhance flow management capabilities and provide more precise information to system operators and users regarding current and projected NAS delay/congestion conditions. The ATMS will have the capability to precisely monitor the NAS, provide alerts to projected congestion, generate alternative flow management resolutions, and distribute tailored flow directives to impacted ATC facilities.

During FY 1986, the initial operational description for the ATMS was completed. The ATMS testbed was utilized to develop the operational and functional specifications for a NAS System Performance Analysis function to assess national strategic flow management effectiveness. In FY 1987, the ATMS testbed will be used to develop operational and functional specifications for a NAS Automated Monitor/Alert function and an Automated Airport Capacity Projection function.

In FY 1986, a Departure Flow Management testbed was established in New York. In FY 1987, the Departure Flow Management function will be evaluated on this testbed.

The AERA concept involves using the Advanced Automation System computers and new software to automatically calculate the planned flight profiles of all controlled traffic, check the profiles for potential conflicts, resolve all identified flight path conflicts between aircraft and with restricted airspace, and automatically generate clearances for aircraft to provide for the safe, metered, fuel-efficient flow of traffic.

The development of AERA will occur in three incremental stages: AERA 1, 2, and 3. The performance specifications for AERA 1 were developed in two separate packages. The first package was included in the Advanced Automation System (AAS) specification in FY 1984 and an update including additional features needed to make the package operationally suitable were added during FY 1985. The specification for these features was provided to the AAS system designers for development and incorporation into the AAS.

In FY 1986, the AERA 2 operational concept along with a high-level performance specification was completed and turned over to the Advanced Automation Program Office. The AERA 2 requirements were incorporated into the AAS acquisition phase Request for Proposal. The AAS/AERA 2 development, integration, and implementation will be added to the AAS contract.

Also, in FY 1986 work was begun on the analysis of the functional concepts for AERA 3, which will be completed in FY 1987. AERA 3 will utilize data link to automatically send computer-generated ATC clearances to properly equipped aircraft. Special analyses will be conducted in FY 1987 to examine the integrity and reliability issues associated with automatic clearance delivery and the man-machine interface in the AERA 3 environment.

During FY 1987, we will initiate a program to develop an ATC system operational concept based on automatic dependent surveillance (ADS). This concept will be developed as a means for insuring separation based upon the report of the aircraft position as determined by the airborne navigation system and communications via data link to the ATC system. The safe horizontal separation reduction that can be realized from ADS is dependent upon navigation system accuracy, update rate of the position report, communications response time, and traffic.

Benefits:

ATMS: Increase operational efficiency of the ATC system through the ability to more precisely perform strategic flow management planning.

AERA: Flight-time savings from more direct routing; greater accommodation of user-preferred, fuel-efficient routes, increased levels of safety, and increased controller productivity through greater automation of controller functions.

Advanced System Concepts (Automatic Dependent Surveillance): Reduced separation standards, outside radar coverage, permitted by Automatic Dependent Surveillance will allow aircraft to fly more optimum flight paths resulting in fuel and time savings to the operators and increased flexibility to the controllers.

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,821,000
1983	5,750,000
1984	10,318,000
1985	11,873,000
1986	10,180,000
1987	13,963,000
1988-1992	119,504,000
Total	$174,409,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Advanced Traffic Management System	$ 1,880,000
Automated EnRoute Air Traffic Control	$ 11,803,000
Advanced System Concepts (Automatic Dependent Surveillance)	$ 280,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 05 AIRCRAFT SEPARATION ASSURANCE NAS Plan No. N/A
Program Element Title: Airborne Collision Avoidance System
Subprogram Titles: TCAS-III
Rotorcraft TCAS
TCAS Limited Installation Program (LIP)
TCAS II

Amount: $4,331,000

Basis for Request:
There is a longstanding requirement for an airborne collision avoidance system which functions as an independent back-up to the ground-based ATC system.

Description of Solution:
The objective of this program is to provide an airborne collision avoidance system for the full spectrum of airspace users, ranging from small general aviation aircraft to large transport aircraft, by a range of collision avoidance equipment alternatives which are independent of the ATC system.

The development of TCAS I, which was designed for the smaller general aviation user, has been completed and design guidelines issued for the use of equipment manufacturers. Minimum operational performance standards (MOPS) are currently being prepared by the Radio Technical Commission for Aeronautics. Upon completion, scheduled for the end of calendar year 1986, FAA will confer with the industry and user communities regarding a TCAS I LIP effort.

The development of TCAS II designed for air carrier use, has been essentially completed. Final National Standards and Minimum Operational Performance Standards have been published, but changes are in the process of implementation.

In FY 1985 and 1986, extensive evaluations were performed to define specification requirements for TCAS use on rotorcraft. In FY 1987, necessary changes to the National Standard and the Minimum Operational Performance Standard will be completed. Also in FY 1987, adaptations of TCAS technology will be evaluated for low cost improvement of low altitude NAS surveillance service in airspace currently uncontrolled because of a lack of coverage.

Development and testing of an enhanced collision avoidance system (TCAS III) that includes a horizontal escape maneuver, and TCAS applications for rotorcraft will continue into FY 1987. A TCAS III MOPS is scheduled for completion by the middle of calendar year 1987.

A major goal of the TCAS Program is to transfer the TCAS technology to the private sector. The TCAS Program has two ongoing efforts to effect the desired technology transfer to the United States avionics industry and airline community. In the first of these efforts, a prototype TCAS unit will be installed and flown in a regularly scheduled commercial airline aircraft in FY 1986. This demonstration of TCAS usage will provide the airline industry an initial means to evaluate the practical benefits of TCAS operations and a final verification of TCAS/pilot interface prior to the fabrication of commercial TCAS units.

In parallel with the prototype TCAS installation, a Limited Installation Program (LIP) has been initiated as a cooperative cost-shared effort by two avionics manufacturers, three airlines, and the FAA. The LIP effort providing 16 TCAS II (vertical maneuver) production units began in late FY 1986 with operational testing scheduled for completion by the end of 1987 in the case of one LIP contractor, and in early 1988 for the other. At the successful completion of this effort the FAA will have accomplished the transfer of the TCAS technology and facilitated its implementation by the private sector.

Benefits:
Enhances safety by providing separation assurance back-up to normal air traffic control operations in controlled airspace and for primary separation assurance outside controlled airspace.

Appropriation Summary

Fiscal Year	Amount
1982	$ 7,283,000
1983	8,375,000
1984	9,836,000
1985	6,505,000
1986	9,489,000
1987	4,331,000
1988-1992	1,233,000
Total	$47,052,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
TCAS III	$ 2,051,000
Rotorcraft TCAS	$ 607,000
TCAS Limited Installation Program (LIP)	$ 1,192,000
TCAS II	$ 481,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 06 COMMUNICATIONS NAS Plan No. Various
Amount: $36,352,000

Basis for Request:
The National Airspace System (NAS) Plan requires the modernization, expansion, replacement, and augmentation of much of the Federal Aviation Administration's (FAA's) communication equipment.

Description of Solution:
The communications development program is configured to provide products for subsequent implementation in the NAS Plan. It includes a communication system for the switching and transmission of voice and the distribution of data rapidly, accurately, reliably and economically in support of the future, highly automated air traffic control system which includes the capability for facilities to backup each other upon failure of equipment. The objective includes both air-ground and ground-ground voice and data communication.

The elements included in this program are:
- Communications System Design
- Voice Communications Development
- Data Communications Development

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Communications NAS Plan No. 5-07
Program Element Titles: Communications System Design
Voice Communications Development
Data Communications Development
Subprogram Titles: Rotorcraft Communications
National Airspace Data Interchange Network
Air-Ground Data Link Application and System Development

Amount: $2,442,000

Basis for Request:
FAA's mission requires the rapid and efficient transfer of a myriad of data between facilities, between facilities and controllers and between controllers and pilots. The existing communications systems were not designed for nor can they be modified to meet the demands for services or the capabilities required in a highly automated environment.

Description of Solution:
Research, Engineering, and Development efforts in past years have developed into designs, concepts and hardware/software products which are evolving into the solutions required to modernize the communications data transfer systems into configurations which will facilitate the realization of the significant benefits of automation.

Based on the results of a benefit-cost study of low altitude services in the NAS completed in FY 1986, development of a low cost, self-contained, radio communications facility will be initiated in FY 1987. Similar facilities have been used in Alaska in areas lacking commercial power and roads. Once adapted for use throughout the forty-eight contiguous states, a general purpose, low cost package economically will augment existing communications service throughout the NAS.

The National Data Interchange Network (NADIN) System provides the ground-to-ground transfer of digital data among FAA facilities, and between FAA facilities and military and commercial facilities, both domestic and international. The NADIN System is currently being implemented to integrate several older data networks as a grade-of-service improvement. NADIN and its planned enhancements to include a packet switching capability and the radio communications link including multiplexing modems will form the switching and transmission basis for the data communication network needed to meet the requirements of new systems.

In FY 1986 studies were undertaken to examine increased network capability interfaces of the Advanced Automation System. During FY 1987, system requirements studies and activities associated with contract development and the procurement package will be accomplished for the Packet Switching Network.

Consistent with the NAS Plan, the air-ground transfer of digital data will be accomplished by means of the integral data link capability of Mode S. Studies of the use of this data link to provide aviation related services to in-flight aircraft were undertaken in prior years. Experiments were begun to permit design of future services identified in prior years. The near-term candidates will include various weather products, which the pilot can request in-flight. In FY 1986 various avionics systems were demonstrated and evaluated for providing low cost data link services to the general aviation community. In FY 1987, the data link national aviation standard is scheduled to be completed.

Benefits:
Low altitude voice communications will provide the foundation for rotorcraft and general aviation instrument operations for increased safety. A large benefit will be realized through increased capabilities of rotorcraft emergency medical service operators.

The NADIN program will provide the vehicle for the data communications between the modernized automated facilities of the National Airspace System. It is a critical element in the realization of the full benefits of the overall NAS Plan upgrading of automation capabilities.

The Data Link program will enhance safety to equipped aircraft by providing the pilot with direct access to a menu of weather products and is also a critical element in realizing the productivity gains to be realized through the introduction of the functional capabilities of the higher levels of automation.

Appropriation Summary

Fiscal Year	Amount
1982	$ 3,675,000
1983	3,431,000
1984	5,031,000
1985	5,912,000
1986	1,672,000
1987	2,442,000
1988-1992	20,503,000
	$42,666,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Rotorcraft Communications	$ 313,000
National Airspace Data Interchange Network	$ 1,352,000
Air-Ground Data Link Applications and System Development	$ 777,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Communications NAS Plan No. 1-11
Program Element Title: Voice Communications Development
Subprogram Title: Voice Switching and Control System Development

Amount: $33,910,000

Basis for Request:
The introduction of modern and higher levels of automation to meet the expanding demands for service requires expanded capabilities in the various agency's communications facilities and systems. The Bell 300 voice switching system currently in use in the ARTCC's: 1) is not capable of the automatic reconfiguration required by the Advanced Automation System, 2) is not expandable to meet the needs of the sector suite common console expansion, much less the TRACON consolidation, 3) requires far more console space than is available in the sector suite common consoles, and 4) is very old and is reaching a point where future reliability is in question. It is, therefore, necessary to replace the existing system with a modern state-of-the-art communication system.

Description of Solution:
Develop a Voice Switching and Control System (VSCS) that will provide an integrated air-to-ground and ground-to-ground voice capability which will meet operational requirements including voice communication switching between the air traffic controllers within an ARTCC, between air traffic controllers in adjacent Air Traffic Control facilities, and between air traffic controllers and pilots of in-flight aircraft through remote air-to-ground radio facilities.

In FY-1986, two contracts were awarded for the design, engineering and fabrication of VSCS prototypes. During FY-1987, the VSCS preliminary and critical design reviews will be completed, and preparation of a request for proposals for an acquisition contract will begin.

Benefits:
The VSCS is an integral element of the planned upgrading of the air traffic control automation systems. As such, its benefits are reflected in the overall benefits of the Advanced Automation Program.

Appropriation Summary

Fiscal Year	Amount
1982	$ 254,000
1983	3,432,000
1984	3,523,000
1985	9,280,000
1986	18,923,000
1987	33,910,000
1988-1992	25,081,000
Total	$94,403,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Voice Switching and Control System Development	$33,910,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 08 AIRPORT/AIRSIDE/LANDSIDE NAS Plan No. : NA
Program Element Titles: Airport Safety Support
Airport Design/Layout/Construction
Airport Capacity
Subprogram Titles: Airport Capacity Studies
Airport Safety Planning
Airport Surface Visual Control (Lighting)
Airport Safety Support System
Airport Pavement
Runway Surface Traction

Amount: $3,133,000

Basis for Request:
Airports represent one of the most critical elements of the air traffic system. They involve safety and capacity which have major impacts on the overall air traffic control system and large investments in providing landing surfaces and facilities for passenger ingress and egress to aircraft. As such there is a need to carry out continuing efforts addressing safety activities, pavement construction, and maintenance, runway traction, airport lighting, and capacity considerations.

Description of Solution:
The program involves development of products to improve airport safety, improve crash/fire/rescue (CFR) systems, improve runway condition reporting and stopping distance projection systems, provide visual aids for helicopter and conventional aircraft, provide advanced criteria for pavement design, materials, construction, and evaluation, and improve the capability of airports to effectively handle higher volume of aircraft traffic.

In prior years, design studies covered airfield geometry, runway exits and airfield/aircraft compatibility to improve ground operations. New criteria for overlays of flexible pavements were developed. In FY 1987 work will continue on low cost pavement extenders, seal coats and porous concrete performance. Also in FY 1987 work will be initiated on new pavement materials such as polymers, resins, and epoxies for use in airport pavements. The new materials are expected to provide improved physical properties relative to those of conventional concrete.

Joint FAA/NASA field testing to study the correlation between aircraft stopping performance and ground vehicle friction measurements was completed in FY 1986. Also, data analysis was completed and a report was issued in FY 1986. In FY 1987, we are continuing our joint study on the effects of tire characteristics and runway surfaces for aircraft braking using the Aircraft Landing Dynamics Facility at NASA, Langley.

In FY 1987, field evaluation of microwave ice/snow detection-measurement systems with reporting runway icing conditions to ATC will be continued. Also, studies will continue on control of wildlife, and firefighting agents and techniques.

The feasibility study of soft-ground overrun was completed in FY 1986. The follow-on study to field test the system will continue in FY 1987 in response to an NTSB recommendation to see if aircraft can be stopped safely after overrunning the runway.

The Society of Automated Engineers Ad Hoc Committee study on take-off monitoring systems was completed in FY 1986. The test and evaluation of several systems will be initiated in FY 1987 to determine practicality and further requirements. This effort responds to an NTSB recommendation.

Benefit:
The Airport/Airside/Landside Program supports more effective use of trust funds by providing improved design criteria for more efficient construction and maintenance of pavements at lower cost. Safer aircraft ground operations will also be available under all weather conditions through improved methods for contaminant removal, better lighting and markings, improved CFR systems, improved wildlife control, and more efficient airport designs.

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,566,000
1983	2,781,000
1984	3,878,000
1985	3,205,000
1986	3,037,000
1987	3,133,000
1988-1992	29,247,000
Total	$47,847,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Airport Safety Planning	$ 68,000
Airport Surface Visual Control (Lighting)	$ 543,000
Airport Safety Support System	$ 69,000
Airport Pavement	$ 670,000
Runway Surface Traction	$1,238,000
Airport Capacity Studies	$ 545,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 12 EN ROUTE CONTROL NAS Plan No.: 1-09 1-10
Program Element Title: En Route Experimentation and Development
Subprogram Title: Conflict Alert/Resolution

Amount: $837,000

Basis for Request:

A requirement exists in the National Airspace System to provide assistance to the en route radar controllers in resolving potential midair conflicts when violation of separation standards is about to occur.

Description of Solution:

Design changes have been incorporated to improve the performance of the Conflict Alert function. To improve the overall performance of the Conflict Alert, Conflict Resolution Advisory and Mode C Intruder functions, it is required that these functions be integrated. This will improve the performance of the software and the degree of automated assistance provided to the en route radar controller.

In prior years, software development and testing of the Conflict Resolution Advisory and Mode C Intruder functions was completed. In FY 1987, the integration of the three functions will continue for implementation in the Host computer.

Benefits:

Increase aviation safety by providing the controller with conflict alert resolution advisory and conflict alert for IFR/VFR encounters functions.

Appropriation Summary

Fiscal Year	Amount
1982	$1,240,000
1983	958,000
1984	1,532,000
1985	1,660,000
1986	1,146,000
1987	837,000
1988-1992	0
Total	$7,373,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Conflict Alert/Conflict Resolution Advisory	$837,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 13 FLIGHT SERVICE STATIONS   NAS Plan No.: 3-01
Program Element Title: Flight Service Stations System Development
Subprogram Title: Direct User Access

Amount: $1,548,000

Basis for Request:
The objective of the Flight Service Station Modernization Program is to meet projected increases in demand for flight services without a proportional increase in staff and higher operating costs. This will be accomplished by extensive use of automation, system consolidation, and the concept of self-briefing whereby the users can access the system directly and obtain a weather briefing or file a flight plan.

Description of Solution:
The implementation of the portion of the program to automate the functions supporting the FSS specialist is being carried out in the Facilities and Equipment program.

The R,E&D program will provide enhancement packages for inclusion in the automated system which will facilitate a variety of pilot self-briefing techniques and the filing of flight plans. Full implementation will meet the projected increase in user demand and also reduce the cost of individual services.

The private sector is providing an increasing amount of FSS type services. These sevices will be available at a cost to those users who desire any embellishments to the basic FAA Model 2 capabilities.

Benefits:
1981 User Demand - 62 million/year
Cost per Service - $2.57/Service

1995 User Demand - 115 million/year
Cost per Service - $1.48/Service

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,435,000
1983	3,414,000
1984	4,450,000
1985	5,104,000
1986	1,535,000
1987	1,548,000
1988-1992	1,130,000
Total	$19,616,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Direct User Access	$1,548,000

Research, Engineering & Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 14 TERMINAL TOWER CONTROL
Program Element Title: Terminal/Tower Experimentation and Development
Subprogram Title: ARTS Sustain ARTS III/IIIA & ARTS II/IIA;
ARTS II Mode S Interface

Amount: $282,000

Basis for Request:
A requirement exists to provide digital Mode S beacon aircraft position data for Terminal ARTS IIA displays. The current ARTS IIA displays will accept only analog radar output. The various ARTS configurations must be capable of meeting the requirements for service until the ACF's become operational in the latter 1990's. Special efforts may be required to extend the life of the 1960/1970 vintage ARTS equipment.

Description of the Solution:
In FY 1985 the ARTS IIA Mode S Interface design was completed; in FY 1986 the modification kits and associated software to accomplish the interface was completed; in FY 1987 the software will be finalized and tested.

Special studies of the anticipated demands on and the capabilities of the ARTS equipments will be conducted and appropriate development efforts initiated to facilitate any extension of the life of the ARTS.

Benefits:
The program will keep the ARTS working and operational until the Advanced Automation System is implemented. Delays will be kept to a minimum with safety kept at a maximum.

The ARTS II Mode S interface will facilitate the availability of enhanced and more reliable surveillance coverage in the ARTS IIA equipped facilities.

Appropriation Summary

Fiscal Year	Amount
1982	$ 398,000
1983	0
1984	1,132,000
1985	1,787,000
1986	272,000
1987	282,000
1988-1992	8,123,000
Total	$11,994,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Sustain ARTS II/IIA & ARTS III/IIIA	$112,000
Test Software for Mode S Interface	$170,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 16 TECHNOLOGY NAS Plan No. N/A
Amount: $1,704,000

Basis for Request:
Through the application of the technology developed or analyzed under this program, cost reductions, and system efficiencies are expected that are consistent with the goals of the NAS Plan.

Description of Solution:
This program provides for the evaluation of advanced technologies to determine their potential applicability to the future National Airspace System (NAS), especially in the fields of data processing and displays, satellites, and human factors engineering.

The elements included in this program are:
- Applied Human Factors
- Advanced Technology
- Advanced Commputer Science Applications

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Technology NAS Plan No. N/A
Program Element Title: Applied Human Factors
Subprogram Title: Performance Enhancement
and Error Reduction
(Human Factors)

Amount: $65,000

Basis for Request:
Define the appropriate role of human operators in new technological and automated environments to improve the human factors engineering design of the future NAS.

Description of Solution:
Continually assess pilot performance and pilot controller interactions in an effort to improve the cockpit management procedures, reduce the risks and causes of accidents, and determine methods to insure that design guidelines are followed in the future National Airspace System Plan. In FY 1986, workload measurement techniques were validated in airframe manufacturers' development simulators and were applied to current generation and advanced performance simulators for evaluation. Also, single pilot workload evaluation techniques were employed to determine acceptability criteria for future navigation control and management systems.

In FY 1987, a program plan will be developed to prepare guidelines for improved pilot performance in the application of these techniques.

Benefits:
Reduce the risks and causes of accidents in relationship to the human operator in the ATC System.

Appropriation Summary

Fiscal Year	Amount
1982	$1,019,000
1983	831,000
1984	1,150,000
1985	562,000
1986	267,000
1987	65,000
1988-1992	3,710,000
Total	$7,604,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Applied Human Factors	$65,000

Research, Engineering & Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Technology NAS Plan No. 6-13
Program Element Title: Advanced Technology
Advanced Computer Science Applications
Subprogram Title: Advanced Technology
Advanced Computer Science Applications

Amount: $1,639,000

Basis for Request:
Evaluate the potential application of advanced technologies such as satellites, sensors, and displays to various elements of the NAS and conduct technical investigations of the potential for long-range applicability to the NAS of advanced computer science techniques and technologies.

Description of Solution:
In conformance with objectives of the NAS Plan: (1) investigate, analyze and conduct preliminary design studies for satellite-based techniques in the development of ATC system concepts for communications, navigation, and surveillance; (2) continue investigation of technological developments and operational alternatives which have potential for alleviating ATC system problems associated with wake vortices and rotorcraft operations; and (3) explore the potential offered by concepts in the computer science area to enhance the efficiency, productivity, and safety of the ATC automation systems.

Application of Satellite Technology to Aviation
In FY 1986, FAA recommendations on the use of satellites for communications, navigation, and surveillance services were prepared. In FY 1987, we will refine satellite communications requirements and the methods of implementation based on consideration of RF spectrum conservation and cost.

Terminal Air Traffic Control Automation Technology
In FY 1986 work began on a Terminal Air Traffic Control Automation Program. The objective of this program is to determine the potential of using adaptive time traffic management concepts for the control of aircraft. This is a joint program with NASA, industry, and FAA. In FY 1987, a preliminary cost-benefit analysis of the proposed operational concept will be completed, and preliminary performance evaluations of selected elements of the concepts will be performaned.

Wake Vortex Detection Technology
This program allows the air traffic planner to evaluate the wake vortex safety of various approach path scenarios. In FY 1986, continuing development work was applied to modeling the effects that meteorological conditions have on the generation, transport, and decay of wake vortices. This study will be completed in FY 1987. The results of these efforts may support the future development of a Vortex Advisory System. During FY 1986 and FY 1987, efforts continued to improve the interim separation requirements for rotorcraft leading to a final set of rotorcraft separation requirements in FY 1988. These separation requirements will ensure the safety of rotorcraft flight operations while permitting a more expeditious flow (and mix) of air traffic.

Advanced Computer Science Applications
In FY 1986, the expert wind shear detection specification was completed. In FY 1987, work will continue on evaluating rule-based "expert" systems application to the interpretation of real-time weather phenomena, with the goal of determining to what extent such techniques can be used to predict potential hazards to aircraft, such as windshear, down-bursts, and severe turbulence. Also, in FY 1987, we will investigate rule-based systems for assessing and selecting alternate flow control procedures on a nationwide basis.

Benefits
Through the application of the technology developed or analyzed under this program, system efficiencies are expected that are consistent with the goals of the NAS Plan.

Appropriation Summary

Fiscal Year	Amount
1982	$ 525,000
1983	1,602,000
1984	3,984,000
1985	3,688,000
1986	1,266,000
1987	1,639,000
1988-1992	52,527,000
Total	$65,231,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Advanced Technology (rotorcraft, satellite comm. and Terminal ATC Automation)	$1,270,000
Advanced Computer Science Applications	$ 369,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 21 SUPPORT NAS Plan No. NA
Program Element Titles: In-Service ATC Simulations
ATC Requirements Studies
Subprogram Titles: FAA/NASA Simulations
Rotorcraft Operational Procedure Support
Low Altitude ATC Surveillance
Program Support

Amount: $2,009,000

Basis for Request:
This program provides technical support for solution of overall ATC system problems which do not logically fall into any one of the other development programs.

Description of Solution:
The objectives of this program are to satisfy requirements for overall ATC system improvements and to conduct analysis and development activities to accomplish objectives related to resolution of systems integration problems, monitoring development progress, conduct of experimental investigations at Ames and Langley Research Centers and provision for analytical and programming support for the FAA Technical Center support facilities.

Support services are being provided for conduct of experimental investigations at Ames and Langley Research Centers using their simulation, wind tunnel, and other technical facilities for the FAA Langley and Ames Engineering and Development Field Offices. NASA facilities will be utilized for experimentation in cockpit display, digital flight controls, navigation and human factors programs. The FAA will continue to cooperatively work with NASA in their high technology cockpit programs, with the goal of placing new technology into approved use as quickly as practical.

New rotorcraft terminal instrument procedures (TERPS) will be required to place advances that have been made by industry into productive use. Safety and efficiency improvements are possible through new technology, such as digital automatic flight control systems and electronic cockpit displays. However, TERPS improvements and new operational concepts are needed utlimately to place new technology into approved use, under instrument flight rules (IFR). In FY 1984 and FY 1985, rotorcraft microwave landing system (MLS) TERPS data were collected to support development of procedures for the least sophisticated class of user. In FY 1986, TERPS investigations centered on more sophisticated helicopters, equipped with older analog flight directors and airplane-like cockpit displays utilized by most of the instrument helicopter fleet today. In FY 1987, lower speed and decelerating approaches, based on prior Army experience in this area, will be started because of the potentially high payoff in terms of access to urban areas during adverse weather conditions. In addition, TERPS investigations will try to capitalize on the full safety and efficiency potential associated with newer digital control and display systems found in the civil fleet today.

The automated management information system will continue to be maintained and enhanced to provide monitoring and tracking of the NAS Plan and other program activities, supplementing the system being developed by the system engineering and integration contractor.

Benefits: The benefits of these efforts are realized as increments in the products of the R&D program.

New TERPS will permit users to realize the full safety and efficiency potential of newer equipment.

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,227,000
1983	3,099,000
1984	3,634,000
1985	3,483,000
1986	4,297,000
1987	2,009,000
1988-1992	20,476,000
Total	$39,225,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
FAA/NASA Simulations	$ 689,000
Rotorcraft Operational Procedures Support	$ 156,000
Low Altitude ATC Surveillance	$ 56,000
Program Support	$1,108,000

Remarks:
The subprogram content of this program varies from year to year. Therefore prior year costs are not reflective of the costs for items in the FY 1987 request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

2. Advanced Computer....................................$22,895,000

This activity is critical to the overall implementation of the NAS Plan and provides for the development of en route and terminal advanced automation systems designed to accommodate the accelerating demands for air traffic services expected beyond the mid-1980's. In addition to increased system capacity, the higher levels of automation provided by this activity will allow more reliable and safer services to the users of the National Airspace System (NAS). At the same time, this computer modernization program will enable the agency to improve the productivity and provide a more fuel efficient environment for the aviation industry to operate in.

23 Advanced Automation

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 23 ADVANCED AUTOMATION NAS Plan No. 1-07, 1-12
Amount: $22,895,000

Basis for Request:
The existing Air Traffic Control (ATC) computer systems are of 1960 vintage, are obsolete, and due to inherent limitations, cannot meet the demands for services in the mid 1980's and beyond.

Description of Solution:
The solution for this requirement will be addressed in two phases, which will be conducted concurrently.

The first phase calls for the replacement of the current IBM 9020 computers with modern current generation computers. The forecasted traffic will begin to saturate the 9020 systems in 1986. The new Host computer will be a more reliable system with increased speed and capacity, that can host the current 9020 software, and satisfy the performance objective of providing sufficient computer capacity to meet projected en route traffic demands through the mid 1990's.

The second involves a total new system capable of satisfying both en route and terminal ATC requirements. An all new software system will be designed that will permit the allocation of software between the central computers and the distributed processors associated with the sector suites. The new system will provide the capacity, reliability, and economics that will be required to meet the demand for services through the year 2000.

The elements included in this program are:

Host Computer System
Advanced Automation System

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears are included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Advanced Automation NAS Plan No. 1-07
Program Element Title: Host Computer System

Amount: $1,372,000

Basis for Request:
The current en route and terminal computers in use in the NAS are of 1960's vintage and are approaching obsolescence. The total hardware/software replacement of these systems with a common system will not be completed until the early 1990's. To provide the computer capacity for the late 1980's, the en route 9020 computers must be replaced prior to full Advanced Automation System implementation.

Description of Solution:
A replacement for the current 9020 computers will take the form of a modern 9020 instruction compatible computer, called the Host Computer System, which will use existing software with minimum modification. The Host will provide needed computer capacity and reliability during the late 1980's and into the early 1990's to accommodate the projected growth in air traffic and to support post-Host functional enhancements. The Host Computer System will also improve system maintainability.

In prior years design competition contracts were awarded to two contractors. Design systems were developed and subjected to testing at the FAA Technical Center. The successful contractor was selected in FY 1985 and began the production phase of the Host program.

In FY 1986, software modification and testing of the Host Computer System was completed at the FAA Technical Center. Development activities at the Technical Center in FY 1987 will include participation in all factory tests, installation tests, and system evaluation tests. This will complete all the R,E&D portion of the Host Computer System.

Benefits:
The Host system must initially be in place and operating in the 1987 timeframe to preclude system saturation and constraints on air traffic. The Host computer will provide needed computer capacity and reliability during the late 1980's and into the early 1990's to accommodate the projected growth in air traffic and support post-Host functional enhancements. In addition, the Host computer will improve system maintainability.

Appropriation Summary

Fiscal Year	Amount
1982	$ 11,240,000
1983	22,474,000
1984	52,045,000
1985	32,426,000
1986	1,498,000
1987	1,372,000
1988-1992	0
Total	$121,055,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Host Computer System	$1,372,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Advanced Automation NAS Plan No. 1-12
Program Element Title: Advanced Automation System

Amount: $21,523,000

Basis for Request:
The current 1960's generation en route and terminal Air Traffic Control systems lack the processing capacity and flexibility necessary to support increasing levels of air traffic and additional automated safety and productivity functions.

Description of Solution:
The objective of this program is to conduct the planning, research, development, and testing activities necessary to support the implementation of a modern air traffic control automation system capable of providing both en route and terminal services.

This Advanced Automation System (AAS) will include hardware, software, and sector suites. The new sector suite will be developed to provide both en route and terminal air traffic controllers with electronic displays of digital radar targets, flight plan data, weather information, and supporting flight information. An individual sector suite will be made up of interchangeable consoles which contain electronic displays, flexible format data entry devices, and a communication control module. Provisions will be made for special configurations of sector suite consoles to meet the requirements for supervisory consoles, oceanic control sectors, and tower displays.

A completely new software system will be designed which will provide for the allocation of software between the central computers and the distributed processors associated with the sector suites. This will ensure availability of critical surveillance data at the sector suites and provide for overall efficiency for the data processing system. In addition, software functions that are now unique to the terminal air traffic control systems will be incorporated into a common software package for both en route and terminal processing.

Two design competition contracts were awarded in FY 1984 for the engineering, design, development and testing of the Advanced Automation System. In FY 1986, design and development activities by the competitive contractors continued, and the AAS preliminary design review was completed. During FY 1987, the AAS Critical Design Review will be concluded, the initial sector suite design will be approved, the request for proposals for the Acquisition Phase contract will be issued, and other design and development activities will continue.

The FY 1987 request includes funding for AAS system design efforts, technical support and FAA in-house requirements. Additional funding is requested in the Facilities and Equipment Appropriation budget item 1b(2) for AAS preproduction hardware and software costs and engineering support.

Benefits:
The Advanced Automation System will provide for improved safety and efficient use of the National Airspace System, while minimizing constraints on its use. The AAS will provide the ability to handle safely without delays, the growing civil and military air traffic projected through the 1990's and beyond; improve productivity of the air traffic controllers; and reduce maintenance costs. The AAS will facilitate the introduction of new functions which will lead to enhanced system safety and improved fuel efficiency.

Appropriation Summary

Fiscal Year	Amount
1982	$ 0
1983	17,026,000
1984	95,020,000
1985	120,332,000
1986	75,544,000
1987	21,523,000
1988-1992	76,426,000
Total	$405,871,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Prime Contracts	$ 4,600,000
Engineering Support	10,024,000
FAA In-house	6,899,000
	$21,523,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

3. Navigation $6,218,000

This activity provides for modernization, expansion, and improvement of the common aeronautical navigation system facilities in the United States and in overseas areas where international agreements require United States participation. Work in the field of both short and long distance navigation and of landing systems is included. The activity is divided into two programs in which effort will be conducted. These programs are as follows:

04 Navigation
07 Approach and Landing Systems

Research Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 04 NAVIGATION NAS Plan No. 7-03
Program Element Title: Helicopter IFR Operation Navigation Support Engineering
Subprogram Titles: Helicopter IFR Operations
Navigation Systems Engineering

Amount: $3,344,000

Basis for Request:
The aviation community has a need for supplemental navigation systems in addition to the existing VHF omnidirectional range (VOR) and nondirectional beacons to provide additional nonprecision approach capability at numerous airports throughout the United States and additional en route navigation capability. Candidates for these systems include the Global Positioning System (GPS) and LORAN-C. In addition, options and system enhancements intended to aid rotorcraft navigation are required to assist integration of rotorcraft and other low altitude users into the National Airspace System.

Description of Solution:
The Federal Radionavigation Plan (FRP) requires a decision in calendar year 1987 for the post 1995 radionavigation system mix. This requires the assurance of continued safe use of all the systems until 1995 and then a safe and smooth transition to the selected future system mix. The use of a mix of systems in the national airspace at the same time requires that the performance of each be examined so that technical and operational problems can be identified and resolved.

LORAN-C provides an attractive area navigation aid for general aviation. Both GPS and LORAN-C can be used as en route navigation supplemental aids under instrument conditions.

Prior year activities included completion of analyses of LORAN-C signal data collected during nationwide flights, evaluation of new technology LORAN-C and GPS receivers, assistance in the development of flight inspection techniques for LORAN-C and GPS approaches, and review of potential techniques for use in a GPS Signal Advisory System.

FY 1987 activities include detailed examination of the selected method to be used in implementation of a GPS Signal Advisory System, and continuing laboratory testing of evolving technology in LORAN-C and GPS avionics.

In FY 1986, work was initiated to develop a rotorcraft capability to conduct off-runway instrument approaches for ultimate use at busy airports to increase safety and increase airport capacity. This work will continue. In FY 1987, airborne equipment and concepts will be developed to enable rotorcraft to conduct complex approaches and departures that provide greater clearances from obstructions and terrain, provide for better noise abatement, and lower minima for safer, quieter operations in urban areas.

Evaluate promising navigation/landing capabilities and consider future implementation of those selected systems that will assist integration of rotorcraft into the National Airspace System. Provide support for approval of the new capabilities, for enhancement of navigation at low-altitudes and in remote areas, and for the approach/landing phases of flight.

Benefits:
User benefits will be assured by ability to utilize an intermix of navigation facility types.

Off runway rotorcraft operations at busy airports will increase safety and airport capacity for all users. Similar capabilities applied at urban heliports will result in greater protection from obstructions, lower instrument minima, and quieter operations.

Appropriation Summary

Fiscal Year	Amount
1982	$ 1,960,000
1983	997,000
1984	1,773,000
1985	2,011,000
1986	2,625,000
1987	3,344,000
1988-1992	16,170,000
Total	$28,880,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Rotorcraft Navigation & Landing	$1,386,000
Navigation Systems Engineering	$1,956,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 07 APPROACH AND LANDING SYSTEM NAS Plan: NA
Amount: $2,874,000

Basis for Request:
There is a need to improve all phases of flight particularly in the approach/landing and departure which places the aircraft in its most vulnerable position with respect to weather, hazardous wind shear, terrain, and safety margin. Advanced technology and products with accompanying procedures are required for implementation for such systems.

Description of Solution:
Fleet surveys of avionics equipment has been completed and simulator tests were used to define the capabilities of the avionics equipment. Wind shear models that were developed and used in airplane simulators were distributed to interested government and industry institutions resulting in the certification of devices for sensing wind shear at the airplane. A joint government/industry effort is underway to develop a certificatable wind shear detection and avoidance system and to evaluate crew workload and performance measurement techniques for assessing the impact of introducing new technology into the cockpit.

The elements included in this program are:

Approach and Landing Applications
Flight Deck Systems and Concepts

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Approach and Landing System   NAS Plan: NA
Program Element Titles: Approach and Landing Applications
Flight Deck Systems and Concepts
Subprogram Titles: MLS Segmented and Curved Displays
Precision Approach Improvements
Flight Deck Operations Integration with the NAS
Flight Crew Performance
Flight Operations - Expert Systems

Amount: $1,818,000

Basis for Request:
Of all the phases of flight, it is the takeoff, approach and landing operations that place an aircraft in its most vulnerable position, with respect to weather, terrain, and safety margin. To facilitate safe operations commensurate with the number of new systems to be implemented in the NAS Plan requires new procedures, greater use of computer aids, and improved human factors design to prevent degradation of aircrew performance. Research in cockpit systems is done in response to recommendations from both internal FAA Safety and Air Traffic organizations and external sources such as National Transportation Safety Board (NTSB), the President's Commission on Crew Complement (1980), and the Society of Automotive Engineers Subgroup and Human Behavioral Technology committees.

Description of Solution:
In prior years, fleet equipment surveys and simulator tests were used to define the capabilities of existing avionics for MLS complex approaches. Simulation analyses also supported design and certification criteria for new MLS RNAV equipment, and were used for initial studies of proposed new ATC procedures and pilot/controller interactions. In FY 1987 studies will address the capabilities of advanced displays and control systems, MLS auxiliary data applications, and criteria for new CAT III automatic landing systems.

Under Flight Deck Systems, a joint government/industry effort is underway to evaluate crew workload and performance measurement techniques for assessing the impact of introducing new technology into the cockpit. Certification guidelines for navigation control/display units were developed. Initial studies of the integration of new NAS airborne systems have been conducted by a time-line analysis. Work is in progress to update the Aircraft Alerting Systems Standardization guidelines, and to develop industry guidelines for a Flight Phase Status Monitor. The latter will provide enhanced detection, alerting, and resolution advisories on a number of potentially hazardous situations. In FY 1987, work will continue in the areas of crew performance assessment and the integration of new NAS systems into the cockpit. Also in FY 1987 the Flight Phase Status Monitor display guidelines will be completed.

Benefits:
In the takeoff, approach, and landing area, certification guidelines will be developed for cockpit instrumentation and procedures for complex approaches and departures, new procedures designed by Air Traffic Control will be refined and validated by simulation. The Flight Deck Systems subprogram will provide guidelines for crew workload and performance measurement methods for use in design and certification of new aircraft, as well as supplemental certification of new cockpit systems.

Appropriation Summary

Fiscal Year	Amount
1982	$ 261,000
1983	1,043,000
1984	3,636,000
1985	2,853,000
1986	1,822,000
1987	1,818,000
1988-1992	13,682,000
Total	$25,115,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
MLS Segmented and Curved Displays	$999,000
Precision Approach Improvements	$650,000
Flight Deck Operations Integration with the NAS	$ 57,000
Flight Crew Performance	$ 56,000
Flight Operations - Expert System	$ 56,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Approach and Landing System   NAS Plan: NA
Program Element Title: Flight Deck Systems and Concepts
Subprogram Title: Airborne Wind Shear Detection and Avoidance

Amount: $1,056,000

Basis for Request:
Of all the phases of flight, it is terminal area operations (the approach and landing, and departure) that places an aircraft in its most vulnerable position with respect to hazardous wind shear. In the United States, during the time from 1964 to 1984, there have been at least 25 airplane accidents and three incidents involving 491 fatalities and 206 injuries where severe wind shear was a contributing factor. The National Research Council reported that development of on-board forward-looking systems (such as airborne Doppler radar and lidar light detection and ranging) was inadequate and recommended that steps should be taken to determine the capabilities of forward-looking sensors.

The National Research Council further recommended that the FAA establish a wind shear program manager to develop a wind shear plan. The result is the "National Integrated Wind Shear Plan." This program implements and executes the airborne portion of that plan.

Description of Solution:
The results of an earlier FAA airborne wind shear program showed that a combination of three elements would provide airborne wind shear detection and flight guidance. A by-product of the program included a set of wind shear models that were used in airplane simulators. These models were distributed to interested government agencies, industry and academic institutions to provide a common basis for evaluating wind shear devices and procedures. These have resulted in certificated devices for sensing wind shear at the airplane.

The products of the current program will be developed by a new five year cooperative effort between the National Aeronautics and Space Administration and the FAA. The results will be in a form that transitions technology from government to industry to develop a certificatable wind shear detection and avoidance system. The program started with a joint FAA/NASA/industry study group to investigate airborne Doppler radar. This group outlined the state of commercial technology and laid a foundation for developing the criteria for forward-looking wind shear systems.

In FY 1986, the development of functional specifications for forward-looking wind shear sensors began. Tests were performed on the effect of locally heavy rain on aerodynamic performance, air data sensors and radomes. High angle of attack flight test data of transport category aircraft were also analyzed.

In FY 1987 preliminary functional specifications will be defined for forward-looking wind shear sensors. Industry will be invited to participate in government tests of available sensors, which will provide criteria to write functional specifications for hazard characterization devices. These tests will also develop standardized test methods for use by industry.

Benefits:
Improvements in safety and reduced user costs from reliable wind shear detection and avoidance devices. Specific benefits include: reduction in weather related accidents and improved traffic flow, when properly equipped aircraft and flight crews locate and assess wind shear hazards prior to encounter; and reduction in crew distractions during the high workload environments of approach to landing and departure, by minimizing false hazardous weather warnings.

Appropriation Summary

Fiscal Year	Amount
1982	0
1983	0
1984	0
1985	0
1986	$ 625,000
1987	1,056,000
1988-1992	5,041,000
Total	$6,722,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Airborne Wind Shear Detection and Avoidance	$1,056,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

4. Aviation Weather $6,770,000

This activity provides for a program coordinated with the Departments of Commerce and Defense and the National Aeronautics and Space Administration to increase the safety and efficiency of the National Airspace System (NAS) by providing weather information tailored for use by pilots and controllers.

This unique weather information is required by the NAS Plan and is necessary to enhance safety and improve the overall performance and utility of the ATC System. This activity is accomplished under a single program:

15 Aviation Weather

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 15 AVIATION WEATHER NAS Plan No. Various
Amount: $6,770,000

Basis for Request:
There is an expressed requirement in the NAS plan to improve the safety and efficiency of the ATC system by enhancing existing and planned air traffic control and flight service station system components and facilities for the collection, processing, and dissemination of significant weather information.

Description of Solution:
The goal of the Aviation Weather Program is to improve the timeliness and accuracy of weather information provided to the National Airspace System (NAS) to reduce the number of weather-related accidents and incidents and to increase both system capacity and fuel savings by reducing weather-related delays. Elements of the program are conducted in close cooperation with the National Weather Service (NWS), the Departments of Commerce and Defense and the National Aeronautical and Space Administration.

This program has three development areas; (1) enhancements to weather services for the NAS for rapid access to hazardous and routine weather products; (2) development of an improved national system for detecting hazardous weather phenomena through the application of Doppler radar technology; and (3) evaluation of meteorological sensors as candidates for a ground-based automated weather observation system to provide observations at airports with approved instrument approaches.

FAA research activities in the above areas are monitored by the Federal Coordinator for Meteorological Services and Supporting Research. This office coordinates the activities of all agencies having weather related missions and activities, including FAA's aviation weather programs related to aviation safety and the efficient use of airspace. The FAA provides a representative to the Office of the Federal Coordinator who ensures comprehensive weather planning on a national level.

The elements included in this program are:

NAS Weather Enhancements
Doppler Weather Radar Development
Weather Radar Development, Processing and Display

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aviation Weather MAS Plan No. 3-02
Program Element Title: MAS Weather Enhancements
Subprogram Title: Central Weather Processor

Amount: $1,053,000

Basis for Request:
Hazardous weather is a significant threat to safety of flight for all aircraft, particularly in the very critical takeoff and landing phases of flight. Reducing this threat requires that potential encounters with hazardous weather be predicted sufficiently far in advance to allow appropriate avoidance action to be taken by the pilot. Hazardous weather information needs to be provided on a timely basis to permit pilots to avoid the hazard and/or alert ATC specialists to assist pilots in avoiding the hazard.

In addition, better aviation weather information is required in the flight planning phase of flight to increase both system capacity and fuel savings by reducing weather related delays.

Description of Solution:
The central weather processor (CWP) subprogram will provide enhancements to existing and planned air traffic control and flight service station system components and facilities to improve the collection, processing, and dissemination of significant weather information. A CWP will be located in each Air Route Traffic Control Center (ARTCC) and function as the focal point for weather information processing to provide weather data to pilots, air traffic controllers, and flight service station specialists, and will support an automated workstation for NWS meteorologists manning the Center Weather Service Unit (CWSU). The CWP will collect data from the NWS, weather radars, weather satellites, etc. For data distribution, the CWP will interface the en route and terminal ATC computers, the Flight Service Data Processing System (FSDPS), and the National Aviation Data Interchange Network (NADIN).

Development of the prototype CWP will be continued in FY 1987. Delivery of a system for test and evaluation at the FAA Technical Center is expected in FY 1989. CWP studies conducted in FY 1986, will permit software development to be continued in FY 1987 to effect interfaces with the Next Generation Weather Radar (NEXRAD), and the Advanced Automation System.

Benefits:
As a result of the CWP, air traffic controllers, flight service specialists, traffic management personnel, and pilots will be helped in reducing the effects of weather on air traffic. There will be improved tactical and strategic handling of traffic flows due to improved nowcasts and forecasts. Real-time depictions of severe weather, processed by CWP, including mosaicked NEXRAD products, will be available to air traffic controllers and flight service specialists. This will greatly enhance the weather avoidance service provided to pilots by the ATC system, provide better preflight briefings to pilots from the FSS system, and eliminate manual handling of weather information by controllers. Additionally, in the

future, pilots will be able to enter pilot weather reports which will be transmitted over the Mode S data link to the CWP for processing and distribution. The CWP will also automate the operations of the Center Weather Service Unit allowing the meteorologists to better serve all NAS users.

Appropriation Summary

Fiscal Year	Amount
1982	$ 154,000
1983	3,406,000
1984	6,892,000
1985	9,136,000
1986	4,417,000
1987	1,053,000
1988-1992	34,854,000
Total	$59,912,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Central Weather Processor	$1,053,000

The FY 1987 request is for in-house efforts related to software development, interface definition (NEXRAD), testbed maintenance, and communications line lease (test).

Funds for CWP are also included in the F&E appropriation budget item 1b(3) for development of the production prototype software. This software is to be used in the production and implementation phase for the systems that will be deployed to the field.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aviation Weather MAS Plan No. 4-16
Program Element Title: Doppler Weather Radar Development
Subprogram Title: Weather Radar

Amount: $4,536,000

Basis for Request:
Weather radar presentations available from today's systems have limited utility for air traffic control. Current weather radar provides limited information on the location and motion of severe weather. Improved data will result in more accurate weather forecasts which will contribute to reducing aircraft weather-related accidents, and the selection of fuel efficient routes is required. Future automated ATC functions such as AERA and improved flow management must have reliable and accurate weather data before maximum fuel efficiency and manpower productivity gains projected for these improvements can be realized.

Description of the Solution:
A major NAS Plan activity of the weather program is the development and application of Doppler weather radars to replace existing NWS weather radars and to provide new hazardous weather detection capabilities in the NAS. FAA is participating jointly with the Department of Defense and the Department of Commerce in the development of a common-use Next Generation Weather Radar (NEXRAD) to meet the common weather detection requirements of Government and the public. The NEXRAD system will utilize doppler radars to probe weather fronts and provide information on interior storm circulation. Operations will be able to detect hazardous weather and provide safety related information to pilots, controllers, and meteorologists. In FY 1987 a contract funded in the Facilities and Equipment appropriation will be awarded for limited production NEXRAD systems. The FAA's share of the operational network will be funded under the Facilities and Equipment appropriation budget item 1a(3).

In FY 1986 two contracts for Terminal Doppler Weather Radar (TDWR) design trade-off studies were awarded. The results of these studies will be used to determine the production design for the TDWR. Also in FY 1986 activities continued on the software definition for the TDWR. Operational tests of the software will be conducted in FY 1987. Initial operational capability will be achieved using NEXRAD systems modified for terminal use.

Benefits:
More accurate and more timely weather information will be provided in a form that is optimized for use by the air traffic control system. Specific benefits will include: improved safety due to reduction in weather related accidents; better fuel efficiency for aircraft operations; reduced air traffic control system delays; improved aircraft flow control; increased system capacity through traffic management; and productivity gains through automation of the weather function as a part of the larger program of increased automation of the total air traffic control system.

Appropriation Summary

Fiscal Year	Amount
1982	$ 2,301,000
1983	3,975,000
1984	8,427,000
1985	6,346,000
1986	2,778,000
1987	4,536,000
1988-1992	6,291,000
Total	$34,654,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Terminal Weather Radar	$2,339,000
NEXRAD	$2,197,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aviation Weather NAS Plan No. N/A
Program Element Title: Weather Radar Development,
Processing and Display
Subprogram Title: Advanced Weather Devices and Sensors

Amount: $1,101,000

Basis for Request:
Present day ceilometers cannot measure cloud ceiling to 10,000 feet or higher to meet aviation weather forecast requirements. Thunderstorm lightning is a hazard to aviation and requires sensors which can accurately and reliably locate the thunderstorm and determine its intensity. The ground-based Low Level Wind Shear Alert System (LLWAS) cannot reliably detect hazardous microbursts and display of data to controller must be improved. The prevailing visibility at airports is desired by pilots for a complete weather briefing. There is a need for automated weather observing systems to observe and report the different types of hydrometeors (rain, snow, sleet, hail, freezing rain, etc.). Short term forecasts are needed to support IFR operations for short-haul users. The full potential of the Automated Weather Observing System (AWOS), which is being implemented at a large number of airports, cannot be realized until the above problems are solved and the necessary sensors developed, tested, evaluated, and implemented.

Description of Solution:
In 1987, both the Lightning Detector and the lightning data collected in 1986 by the Lightning Detection System will be evaluated and a specification prepared for system procurement in 1988. In 1987, an improved automated present weather detector will be procured and evaluated to distinguish between the various types of hydrometeors (rain, snow, sleet, hail, freezing rain, etc.) and determine precipitation intensity. During 1987, the relationship between surface wind variations, as determined by the LLWAS, and wind conditions aloft which are conducive to hazardous microburst formation will be researched with study completed in 1988.

Work was initiated in FY 1985, and continued thru FY 1986 for LLWAS algorithm development, development of new sensor siting criteria and initial display development.

In FY 1987 techniques for display of hazardous weather to air traffic controllers and pilots will be demonstrated and be integrated into the NAS in 1988-1989 time frame.

In FY 1985 and FY 1986, the National Weather Service (NWS) developed short range forecasting algorithms under interagency agreement with the FAA. Results of the NWS work in a laboratory environment show great promise of generating accurate forecasts in 15 minute increments inside of 2 hours, ultimately to provide forecasts to short haul users for increased safety. Short range forecasts are envisioned to be generated in conjunction with minute-by-minute observations from AWOS, and would have information rapidly disseminated in a way similar to AWOS. This newly developed technique appears to have application in improving 6 hour terminal forecasts as well for enhancement of flow control functions. In FY 1987, short range forecasting algorithms will be incorporated into an existing AWOS unit for initiation of algorithm validation and operational concept development.

Benefits:
As a result of the implementation of these advanced weather devices/sensors, improved automated weather observations will provide pilots, meteorologists and air traffic controllers with rapidly updated accurate aviation weather and enhance the detection of hazardous weather. The development of new siting criteria, algorithms and display techniques will significantly enhance the safety of flight.

Appropriation Summary

Fiscal Year	Amount
1982	$ 322,000
1983	200,000
1984	220,000
1985	0
1986	0
1987	1,181,000
1988-1992	9,967,000
Total	$11,890,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Costs
Advanced Weather Devices and Sensors	$ 626,000
Weather Radar Processing and Display	$ 555,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

5. **Aviation Medicine** $3,767,000

This activity is concerned with the analysis, assessment, and improvement of the role of the human operator in the air traffic control system, the efficiency, performance, and work environment of airmen, the safety and health of pilots and aircrew, and the safety of passengers and certain ground personnel.

19 Aviation Medicine

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: AVIATION MEDICINE NAS Plan No.: N/A
Amount: $3,767,000

Basis for Request:
The objective of the program is the application of information gained which will benefit, enhance, and advance civil aviation.

Description of Solution:
This program is concerned with the analysis, assessment, and improvement of the role of the human operator in the air traffic control system; the efficiency, performance, and work environment of airmen; the safety and health of pilots and aircrew; and the safety of passengers and certain ground personnel.

The elements included in this program are:

- Aeromedical Program Support
- Protection and survival
- Work Force Optimization Research (Analytical)
- Human Performance Research

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary

Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate

Cost estimates of work to be funded this year as well as the outyears are included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: AVIATION MEDICINE NAS Plan No.: N/A
Program Element Title: Aeromedical Program Support

Amount: $ 988,000

Basis for Request:
A continuing need exists to perform toxicology/pathology services in connection with aircraft accidents. In addition to our own internal needs in these areas to support aviation safety, we have an agreement with the National Transportation Safety Board (NTSB) to provide post-mortem analyses of tissue specimens to determine contributing toxicological factors in fatal accidents. We also now have an agreement with the Federal Railroad Administration (FRA) to provide toxicological services related to railroad accidents.

The Federal Air Surgeon continually seeks refinement in the airman medical certification program to relieve the burden on the certified pilot population where possible and to determine relationships between observable physical/physiological parameters and airman performance. This includes the study of effects of therapeutic drugs, development of relevant vision tests for airmen and air traffic controllers, and effects of pesticide exposure on aerial applicator personnel.

The Federal Air Surgeon's Aeromedical Education Program requires continual study of current problems in order to update or create new material for inclusion in airmen educational materials and publications. Materials toxicity mechanisms must be better understood in order to provide agency certification authorities with guidance on cabin interior furnishings and structures.

Description of Solution:
The Civil Aeromedical Institute's Toxicology Laboratory will continue to support accident investigations through analysis of tissue specimens and on-site investigation of aircraft accidents to determine injury contributing factors. Laboratory analysis of submitted specimens will be performed for the FRA in support of their investigation of rail accidents. Also, an experimental study will be made of job-related visual requirements for air traffic controllers. This effort will involve analysis of typical target sizes, sharpness, contrast, etc., and development and validation of appropriate vision tests. Products for FY 1987 will consist primarily of toxicological reports to the Office of Aviation Safety, FRA, and to the NTSB regarding results of tissue specimen analyses and a preliminary report for use by the Federal Air Surgeon in determining the possible need for revision of existing airmen and ATC medical standards, such as vision standards and testing methods.

A field study project will be performed to assess the effects of shoulder harness utilization in general aviation accidents. Selected accidents will be investigated by CAMI personnel to determine relevant information.

Laboratory studies of toxicity of burning materials will be conducted to determine effects of interactions of various noxious and irritating gas mixtures.

Benefits:
1) Increased awareness of physiological factors associated with accidents and consequent actions by the agency to correct areas within its certification purview. 2) Reduction in damages to aircraft and facilities. 3) Reductions in injury and loss of life in accidents. 4) More relevant airman and ATCs medical certification procedures with possible reductions in time and money costs to the affected population.

Appropriation Summary

Fiscal Year		Amount
1982		$ 706,000
1983		561,100
1984		967,100
1985		1,062,300
1986		1,259,000
1987		988,000
1988-1992		8,122,100
	TOTAL	$13,665,600

Cost Estimate of Work to be Funded This Year

Item	Estimated Costs
Toxicology	$ 569,000
Research Support for Airmen Certification	234,000
Fire Smoke and Toxic Fumes	185,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: AVIATION MEDICINE NAS Plan No.: N/A
Program Element Title: Work Force Optimization Research (Analytical)

Amount: $1,300,000

Basis for Request:
1) Continually determine agency ATC and Aviation Safety Inspector (ASI) specialist needs, designing tests for use in selecting applicants and performance tests for screening them during training. 2) Continually evaluate the selection/screening/training programs for validation purposes and identify weaknesses for management correction. 3) Continually monitor personnel work load and environmental stressors, determining the relation of selected controller, job-related, situational variables to operational errors, and developing procedures for resolution of problems. 4) Assess agency work force job climate factors to contribute to improved morale and work force performance.

Description of Solution:
Update and annually provide the Office of Personnel Management alternate forms of selection tests and FAA personnel performance tests for use in training. Provide management reports on development of new test and measurement systems. Periodically provide management reports on selection and training needs and recommended changes to increase program effectiveness, identifying changes in operation and maintenance position requirements, knowledge and skill requirements, and new training course requirements and proficiency measurement criteria. Develop sources such as surveys and operational error analyses for inputs to computer data banks, accomplish analyses and provide management reports of problems and resolutions. Develop a methodology for identifying needed personnel system changes due to automating the NAS; new tests for measuring ATC and ASI proficiency in training on the job; reports on ATC and ASI screening and upgrading their training; and reports on monitoring of personnel work load and environmental stressors, including management surveys in support of human relations. Also, review various tests for screening and selection to assure that they are consistent with the tasks which personnel will be performing.

Benefits:
Improvements in screening tests, training programs and knowledge of environmental stresses will aid in reducing initial training failure rates and increase the probability of future retention of Air Traffic Control and Aviation Safety Inspector Specialists.

Appropriation Summary

Fiscal Year		Amount
1982		$ 1,209,000
1983		1,412,900
1984		1,733,300
1985		1,516,200
1986		1,346,000
1987		1,300,000
1988-1992		8,874,100
	TOTAL	$17,391,500

Cost Estimate of Work to be Funded this Year

Item	Estimated Costs
Selection (Air Traffic Controller, Airway Facilities, Aircrew)	$ 46,000
Training (Air traffic Controller, Airway Facilities, Aircrew)	560,000
Workforce Attitude and Human Relations Survey	80,000
Job Task Function Analyses (Air Traffic Controller, Airway Facilities, Aircrew)	614,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: AVIATION MEDICINE NAS Plan No.: N/A
Program Element Title: Protection and Survival

Amount: $ 945,000

Basis for Request:
The agency exercises regulatory authority over aircraft manufacturing and operations. New developments in procedures and equipment must be evaluated to determine their effect on aviation safety, particularly with respect to personnel protection. Also, certain accidents must be investigated to determine the contribution of various components of aircraft structure to injury. Continuous update of regulatory standards is required, either through abolishment of regulations which are no longer applicable, or by imposition of new requirements. This activity must be supported by analysis of the sort performed under this task.

Description of Solution:
The Civil Aeromedical Institute's Protection and Survival Laboratory will evaluate equipment and procedures in response to agency-sponsored requests and commitments. Areas for study are aircraft seat/restraint systems, protective breathing and oxygen systems for aircrew and passengers, and flotation devices for passengers. Research products for FY 1987 will consist of reports to those offices requesting research which include:

1) a study of general aviation and air carrier passenger seat concepts in the laboratory and in accidents;
2) tests of modifications to air carrier passenger oxygen units;
3) tests of modifications to flotation devices used on air carrier flights in water accidents;

Benefits:
Reduction in injury and loss of life attributable to failure of seats and restraints in aircraft impacts, cabin fires with attendant smoke and toxic fumes, and to drowning from failure to obtain and use individual flotation devices.

Appropriation Summary

Fiscal Year		Amount
1982		$ 923,000
1983		1,013,600
1984		1,326,200
1985		1,501,800
1986		2,107,000
1987		945,000
1988-1992		13,557,500
	TOTAL	$21,374,100

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Crashworthiness of Seat and Restraint System	401,000
Cabin Environment and Oxygen Systems:	
Protective Breathing Equipment	197,000
Water Survival	347,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: AVIATION MEDICINE NAS Plan No.: N/A
Program Element Title: Human Performance Research

Amount: $534,000

Basis for Request:
Evidence from work performed in Canada suggests that the judgment pilots exercise in flight can be enhanced by structured training. This would, in turn, lead to a reduction in accidents attributable to pilot error or human factors. Further work is indicated to determine methods for imparting the appropriate human factors/judgment training. The new automated ATC system will impose different performance requirements on air traffic controllers. It will be necessary to study the system and requirements to assure optimal compatibility between controllers and their equipment. This will include evaluation of stress/fatigue implications in the operation of new equipment. Continued study of ATC operational errors is needed to establish the existence of any consistent sources of these errors. Also, continuing effort is needed on identification of ionizing and microwave health hazards to agency personnel who work with this equipment. Cockpit color vision needs in new technology cockpits will be studied in order to provide information on possible revision to medical certification requirements.

Description of Solution:
Continued field studies of pilot training methods will be performed emphazing before and after assessment of performance of various groups of pilots. Also, experimental study of pilot performance will be performed using simulation equipment. Experimental testing of age/shift work/system interaction will be pursued. Test tasks will include monitoring, information processing, mental arithmetic, visual discrimination, and problem solving. This work will focus on ATC problems that may be associated with the new automated system. Study of job-related tests for screening color vision of air traffic controllers will be completed and extended to cover possible application to aircrew. Research products for FY 1987 will consist of reports to the Office of Flight Standards detailing results of field studies accomplished in FY 1986 and FY 1987. Other products will be reports to the Associate Administrator for Air Traffic dealing with studies of human factors of the automated air traffic control system, and to the Federal Air Surgeon specifying results of color vision studies.

Benefits:
Approximately 85 percent of aviation accidents are caused by pilot error or improper decisionmaking. Enhanced decisionmaking or judgment skills can be expected to lead to a reduction in the percentage and absolute number of accidents traceable to poor judgment. Also, findings from the simulator based activity may be used in advisory and educational material with the effect of further reducing accidents. Further enhancements in safety will follow from assuring that pilot/controller visual standards are adequate for the tasks they perform.

Appropriation Summary

Fiscal Year		Amount
1982		$ 72,000
1983		72,400
1984		373,400
1985		519,700
1986		562,000
1987		534,000
1988-1992		2,234,300
	TOTAL	$ 4,367,800

Cost Estimate of Work to be Funded This Year

Item	Estimated Costs
System Research: Control and Display Requirement - Advanced Automation/Simulators and their Application	183,000
Operational Error: Air Traffic Controller, Aircrew Sensation, Perception Judgment	110,000
Stresses: Within Man, the System and Job, Environment, Fatigue, Shiftwork, Radiation, Oxygen Deprivation	135,000
Occupational Health	106,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

6. Aircraft Safety $22,445,000

This activity supports actions required to foster the design of safer aircraft and increase the security of commercial air travel.

18 Aircraft Safety

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 18 AIRCRAFT SAFETY R&D Plan No. 018
Amount: $22,445,000

Basis for Requests:
The Aircraft Safety program has the overall goal of maintaining or improving the level of safety for the traveling public without the imposition of unnecessary economic or regulatory burdens. The program must accommodate a changing technological environment as it relates to industry, the National Airspace System, and Government. New and changing technological thrusts require continued efforts to assist in certification, to determine the adequacy of the Federal Aviation Regulations and to ensure timely applications of new technology.

Description of Solution:
The program objectives are to conduct engineering and development activities which will provide the technical basis to: (1) minimize serious injuries and fatalities by maintaining a survivable environment for occupants, ensuring rapid and safe aircraft evacuation and preventing/mitigating the effects of in-flight fires; (2) assure continuing aircraft airworthiness to prevent accidents and incidents from occurring and to mitigate the effects of in-flight aircraft system failures; and (3) the development of effective and economically viable devices which prevent or deter hijacking and sabotage.

The elements included in this program are:

Fire Safety
Transport/Helicopter/General Aviation Safety
Aviation Security

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary
Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate
Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety | RE&D Plan No. N/A
Program Element Title: Fire Safety
Subprogram Title: Cabin Fire Safety
Safety Fuel Evaluation
Amount: $3,155,000

Basis for Request:
Thirty-nine percent of fatalities in impact-survivable accidents are fire related. There is a requirement to increase the survivability of aircraft passengers and crew in both post-crash and in-flight fire situations.

Description of Solution:
In FY 1987 this requirement is being addressed by initiatives that deal with the various facets of the aircraft in-flight fire problem. Efforts will continue in effective aircraft fire management and suppression systems.

This effort, initiated in FY 1985, will continue evaluation of alternatives which minimize the hazards of an in-flight fire through optional modification of the flight profile, changes in cabin ventilation, and cabin pressure. This work will lead to recommended procedures for managing flight profile and environmental systems during an in-flight fire to be completed in FY 1988.

Based on work to be completed in FY 1987 a data package will be prepared which determines effective fire protection measures and firefighting procedures necessary to provide protection against hidden in-flight fires.

A comparison of the effectiveness of an on-board sprinkler system versus penetrator nozzles for combating post-crash internal fuselage fires was completed in FY 1986. Technical data demonstrating improved CFR firefighting capability against post crash internal fuselage fires will be provided.

Work will continue to study the burn-through resistance of composite materials used in aircraft structures. Fire tests will be performed to characterize a variety of fuselage structural materials (phenolics, epoxies, graphite, kevlar, etc.) and a range of structural configurations (laminated with and without honeycomb core).

Regarding general aviation fire safety, fire technology developed for transport category aircraft will be analyzed for its potential application to Federal Aviation Regulation, Part 23 aircraft.

Benefits:
This effort, by leading to upgraded criteria, test methods, advisory circulars or rule changes for general aviation and transport aircraft, will improve the fire-worthiness of aircraft and reduce fire-related fatalities and injuries.

Appropriation Summary

Fiscal Year	Amount
1982	$ 1,363,000
1983	2,805,000
1984	3,555,000
1985	3,664,000
1986	3,376,000
1987	3,155,000
1988-1992	18,556,000
Total	$36,474,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Cabin Fire Safety	$3,031,000
Safety Fuel Evaluation	$ 124,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety NAS Plan No.: N/A
Program Element Title: Transport/Helicopter/General Aviation Safety
Subprogram Title: Propulsion

Amount: $2,350,000

Basis of Request:
As new technological techniques and methods are introduced, improved criteria, standards, and testing guidelines related to both general aviation and air carrier power plants are required to maintain the safety of flight.

Description of Solution:
The FY 1987 effort is characterized by continued emphasis on the suitability of foreign object damage criteria used for new second generation high bypass turbofan engines. Guidance material will be provided in the form of a Technical Report.

Based on work completed in FY 1984, bird ingestion studies were expanded in FY 1985 to define the tolerance limits of high bypass turbofan engines. Techniques to improve this damage tolerance by analysis were expanded to include small turbofan engines in FY 1986 and will continue in FY 1987.

Efforts initiated in FY 1985 will be completed in FY 1987 for water ingestion. Water measurement techniques will be established for turbine engines. A final Technical Report will be published.

Work leading to establishing fuel aging characteristics for autogas will be completed in FY 1987. A final Technical Report will be published.

Assessment of accident/incident reports pertinent to powerplant operational safety will continue in FY 1987.

Benefits:
Solutions to improve propulsion system safety and reliability will be developed which provide a framework for future technology standards to support aircraft engine certification. Improved guidance material will be made available to deal with in-service problems of ingestion and containment.

Appropriation Summary

Fiscal Year	Amount
1982	$ 374,000
1983	515,000
1984	1,315,000
1985	1,029,000
1986	1,810,000
1987	2,350,000
1988-1992	10,056,000
Total	$17,449,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Propulsion	$2,350,000

Research Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety NAS Plan No. N/A
Program Element Title: Transport/Helicopter/General Aviation Safety
Subprogram Title: Crashworthiness

Amount: $1,963,000

Basis of Request:
From 1959-1979, there were 99 United States air carrier survivable accidents accounting for 1,294 fatalities. The need exists to incorporate crashworthy design features into aircraft design so as to maximize the potential for occupant and crew survivability in the event of a crash while minimizing economic impact.

The agency requires continuous operational and technological assessment of advanced aircraft and systems to determine evolving certification requirements, potential airworthiness problems and new inspection methods.

Description of Solution:
In FY 1985, a large transport category airplane was subjected to a controlled impact demonstration under occupant survivable conditions. The analysis of the test data was completed in FY 1985 and used in the preparation of rule making. The test data was used to: validate/calibrate analytical models (KRASH AND SOMTA), which are capable of predicting the dynamic response of a transport airframe in a crash environment; evaluate seat/restraint system design criteria; quantify impact forces experienced by occupants in a survivable crash; and evaluate cabin interior delethalization concepts and egress systems. Based on the results of the full-scale impact demonstration and continuing in-house aircraft fuselage section drop tests, an analytical model for wide-body aircraft was calibrated in FY 1986. A crash environment study for commuter aircraft will be completed in FY 1987. This will be in the form of a final Technical Report.

The introduction of composite primary aircraft structure requires the development of a technology base such that an adequate crashworthy design can be defined. A controlled definition phase study of the impact characteristics and crash resistance of such structures was initiated in FY 1984 as an FAA/DOD agreement and continued into FY 1986. This work will be expanded through FY 1987 to develop the structural response of the fuselage and seat support structures to dynamic crash loads and provide technical data for advisory circulars and design guides.

In FY 1986 the development and validation began of analytical efforts capable of evaluating the relationships between multiple occupant seat/restraint systems and the basic airframe under dynamic crash impact conditions. This effort will continue through FY 1987 to include the analytical techniques with composite structure seat/restraint systems. The study of airworthiness problems associated with the introduction of advanced materials and processes such as, powdered metallurgy, fatigue damage inspection, defusion bonding, graphite/epoxy, kevlar/epoxy, metal matrix composites, etc., were initiated in FY 1986 and will continue in FY 1987. The necessary data for advisory circulars or field guidance for FAA engineers to effectively evaluate advanced material and process type certification, repair, quality assurance, etc., will be developed.

New and improved technology will continue to be developed through FY 1987 to enhance the ability of fuel systems to resist rupture in a crash environment for both fixed and rotary wing aircraft. A Technical Data Package will be published in FY 1987.

Benefits:
Reduce the number of fatalities and injuries due to crash impacts by providing technical data for criteria and performance standards for air frame, cabin interiors, seats and restraint systems and fuel systems. Accidents/incidents will be reduced by improvements in fire/wheel design and improved maintenance/inspection practices.

Appropriation Summary

Fiscal Year	Amount
1982	$ 472,000
1983	2,305,000
1984	4,025,000
1985	3,453,000
1986	2,154,000
1987	1,963,000
1988-1992	16,676,000
Total	$31,048,000

Cost Estimate of Work to be Funded this Year

Item	Estimated Cost
Crashworthiness	$1,963,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety NAS Plan No. N/A
Program Element Title: Transport/Helicopter/General Aviation Safety
Subprogram Title: Flight Safety

Amount: $1,866,000

Basis for Request
The agency requires data for establishment or refinement of certification standards and procedures for flight in known icing conditions for all categories and aircraft. General aviation manufacturers have supported the need for improved low altitude icing data. It is further recognized that updated information is needed to assess the airworthiness requirements for advanced fixed and rotary wing aircraft incorporating critical or essential microelectronic digital systems which may encounter atmospheric storms generating electrical hazards.

Description of Solution
Aircraft icing research will be governed by the National Aircraft Icing Program Council's policy and coordinated aircraft icing engineering and development program plan requirements. Efforts initiated in FY 1984 to characterize all components of the atmospheric icing environment will continue in FY 1987. In FY 1987, the data base on supercooled clouds above 10,000 feet in the continental United States (CONUS) was completed. This will be expanded from CONUS to worldwide in FY 1988. Future efforts will include supercooled clouds, snow, ice crystals, freezing precipitation, and mixed conditions from ground level through appropriate altitudes for all flight levels. Results of these initiatives will be used to update FAR 25, Appendix C, and appropriate Advisory Circulars as necessary and provide the necessary field guidance to support their applications. Also, efforts will be continued to develop and validate analytical techniques and scaling laws and for completion of an aircraft icing handbook to facilitate the certification process.

A National Interagency Coordination Group in Lightning and Static Electricity was established in FY 1980 to coalesce resources and coordinate activities of the participating governmental agencies (DOD, FAA, NASA, and NOAA) in this research area. Various aircraft protection methods will be evaluated in FY 1987 and interim protection criteria will be proposed.

Efforts were initiated in FY 1984 to characterize both intra-cloud and cloud-to-ground lightning and define the aircraft lightning threat, electrostatic discharge (ESD) and electromagnetic interference (EMI). The intra-cloud and cloud-to-ground lightning research was completed in FY 1986 and the lightning characterization models for both were developed and correlated geographically. An aircraft/lightning hazards analysis report will be completed in FY 1988 delineating the efforts/protective criteria required for aircraft structures and systems employing advanced technology techniques. Cooperative efforts with the USAF, USN, USA, and NASA in development of aircraft hardening techniques against the adverse effects of lightning, EMI and nuclear electromagnetic pulse will continue in FY 1987. An indepth study of the effect of aircraft generated EMI on microelectronic digital systems will be accomplished. A geographical lightning study will be completed in FY 1987 defining the impact of various natural lightning effects on both fixed and rotary winged aircraft. The output from the aforementioned efforts will be presented in workshops and reports.

Benefits

This program will provide for improved safety procedures for flight through known icing conditions. More efficient certification standards will provide for significant economies in the certification process for aircraft. Updated lightning strike/electromagnetic interference hazards/protective criteria and standards will improve flight safety.

Appropriation Summary

Fiscal Year	Amount
1982	$ 1,242,000
1983	1,455,000
1984	3,265,000
1985	2,129,000
1986	1,946,000
1987	1,866,000
1988-1992	13,064,000
Total	$24,967,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Flight Safety	$ 1,866,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety MAS Plan No.: N/A
Program Element Title: Transport/Helicopter/GA Safety
Subprogram Title: Regulatory Development Support

Amount: $400,000

Basis for Request:
New technology advancements in aircraft safety necessitates development of updated guidelines, testing equipment, techniques and procedures to support the regulatory process. Followup on technical data and information is necessary to address and support the pertinent aircraft certification and safety assessment needs of the agency. There is also a need for continuing assessment of future technology development and its effect on the agency's regulatory process.

Description of Solution:
In FY 1987 this requirement is being addressed by initiatives that deal with fuel safety research, advanced materials, and certification support, including man/machine interface.

In FY 1987 investigations of new technology advancements that minimize or eliminate the hazard associated with post crash fuel release will be initiated.

Rotorcraft-related efforts under this program directly support the needs of FAA airworthiness certification officials and provide the basis for or facilitate complete, timely certifications. Efforts stated in FY 1985 to determine rotorcraft crew workloads associated with varied degrees of stability and control augmentation, resulting flying qualities, and crew/machine information interfaces (displays) will be completed in FY 1987. Efforts begun in FY 1985 to investigate helicopter low speed handling qualities under instrument meteorological conditions (IMC) will be completed in stages in FY 1987 and FY 1988. In FY 1987, research will be initiated to ultimately produce relaxed static stability guidelines, advanced controller systems criteria for optimal flight and engine control, and improved handling qualities and climb performance criteria. Criteria for minimum equippage for helicopter instrument approaches to heliports with IMC minimums at or below 200 feet and 1/2 mile visibility will be completed in FY 1987. Evaluations will include helicopter raw data, flight director, coupled approaches, and use of varying combinations of control system augmentation and display.

Benefits:
This effort, by providing support in the form of upgraded certification criteria, advisory circulars or rule changes for transport, helicopter and general aviation, will reduce injuries and fatalities and improve overall aircraft safety.

Appropriation Summary

Fiscal Year	Amount
1982	$ 0
1983	0
1984	0
1985	0
1986	0
1987	400,000
1988-1992	16,371,000
Total	$16,771,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Regulatory Development Support	$ 400,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Aircraft Safety NAS Plan No.: N/A
Program Element Title: Aviation Security
Subprogram Title: Explosive/Sabotage Detection

Amount: $12,711,000

Basis for Request:
As directed by Public Law 93-366, the agency conducts research and development to make available effective, economically viable devices and systems to prevent or deter hijacking and sabotage in the civil air transportation system. Criminal acts of sabotage and hijacking continue to pose a serious threat to civil aviation throughout the world. Since 1973-1984, criminal acts against civil aviation have resulted in 1,207 deaths worldwide, with 135 deaths and 142 injuries involving United States civil aviation.

Description of Solution:
The aviation security program is aimed at developing equipment and procedures to improve safety in the following areas: (1) automated explosive detection systems; (2) enhanced concourse security system; and (3) handling procedures for a bomb found on an aircraft in-flight.

Specific projects include screening for passengers, baggage, cargo, air terminal facilities, and the aircraft. Multiple contracts for the development of a prototype Advanced Thermal Neutron detection systems were awarded in FY 1985. Testing of the systems was carried out in FY 1986 and will be completed in FY 1987. Several advanced explosive detection systems were contracted for in FY 1985 and in FY 1986. They will continue into demonstration phases in FY 1987. These systems represent a spectrum of advanced technologies being explored for more effective detection of explosives on persons, in luggage, and in cargo. The joint FAA/Institute of Makers of Explosives program to develop a system for enhanced bomb detection is progressing into the feasibility demonstration phase.

Benefits:
New systems will effectively and efficiently detect explosives or attempted criminal acts in the civil air transportation system, a capability which does not exist today. Current anti-sabotage procedures are labor intensive and relatively expensive. Research for effective and economical systems continues so that appropriate security response to any increased level of terrorism can be promptly implemented to preclude the total shutdown of our air transportation system if faced with rampant terrorism.

Appropriation Summary

Fiscal Year	Amount
1982	$ 857,000
1983	1,270,000
1984	2,598,000
1985	2,937,000
1986	11,803,000
1987	12,711,000
1988-1992	24,858,000
Total	$57,034,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Explosive/Sabotage Detection	
New Technology	$3,700,000
Prototype Development	$5,800,000
Enhanced Bomb Detection	$ 900,000
Concourse Security	$2,300,000
In-Flight Bomb Response	$ 11,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

7. Environment $1,600,000

This activity carries out the agency's statutory mandates to develop and operate an efficient air transportation system, through minimization of the environmental consequences of and constraints on civil aviation.

20 Environment

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: 20 ENVIRONMENT NAS Plan No. N/A
Amount: $1,600,000

Basis for Request:
This program provides the technical bases and economic justifications for regulatory controls and technical guidance and assistance for civil aviation environmental protection. If the agency is to continue to provide an efficient system of air transportation for our nation to meet present and future needs, unnecessary constraints must be minimized. Demands for environmental protection by airport neighbors continue to present potential constraints. Careful analysis and guidance are important to insure that any environmental limitations are meaningful, are not unduly burdensome to any element of the economy, and are consistent with national needs for air transportation. Beyond these requirements, the environmental program also maintains the technical support and guidance needed to support agency activities by providing required environmental impact assessments for proposed agency actions and by controlling the effects of any toxic substances at agency facilities.

Description of Solution:
Environmental effects continue to present a major constraint to the efficient operation of the national air transportation system. FAA has a statutory mandate to protect the public health and welfare from aviation noise and sonic boom, aircraft engine emissions, and other environmental effects. FAA standards and regulations required by statute must be consistent with the highest degree of flight safety, and should be economically reasonable, technologically practicable, and appropriate to the type of equipment affected. Careful and detailed analyses are required prior to the promulgation or amendment of each environmental regulation to satisfy these factors. Although past emphasis has been placed largely on the control and reduction of noise and emissions at the source (the aircraft itself), other approaches must be used to complement regulatory standards, including detailed airport land-use compatibility planning and economic incentives to minimize the residual noise and emissions which can never be completely eliminated.

The elements included in this program are:

Aircraft Engine Emissions Reduction and Control
Aircraft Noise Reduction and Control

Specific information is set forth on the following pages addressing this program request.

Appropriation Summary
Appropriation history for each program item requested is identified on the following pages addressing this program request.

Cost Estimate
Cost estimates of work to be funded this year as well as the outyears is included in the following pages addressing this program request.

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Environment NAS Plan No: N/A
Program Element Title: Aircraft Noise Reduction and Control

Amount: $1,750,000

Basis for Request:
This program element reduces noise effects of civil aviation by controlling noise generated at the source (the aircraft), by developing effective noise abatement operating procedures, and by supporting compatible land use adjacent to airports. Aircraft noise standards and regulations are developed and implemented, consistent with aviation safety, economic reasonableness, and technical feasibility. Work is conducted to improve understanding of noise-generation phenomena and to improve state-of-technology in noise reduction. This program element also provides FAA policies and procedures to meet the requirements of the National Environmental Policy Act in assessing the environmental consequences of proposed agency actions.

Description of Solution:
Noise standards for all types of civil aircraft are continually reviewed and revised to reflect the best available noise reduction technology, consistent with safety and economic reasonableness. The implementation of new noise standards for rotorcraft and small propeller-driven airplanes will be monitored carefully to assure their relevance and effectiveness. Existing procedures for assessing airport noise compatibility with surrounding land uses will be reviewed and improved, along with the technical means, such as the FAA's Integrated Noise Model, for evaluating the extent of incompatibility. Cooperative efforts with other agencies will continue to insure a common federal and international understanding of the effects of aviation noise.

Benefits:
This program element carries out agency statutory duties to control aircraft noise and sonic boom in order to protect the public health and welfare, and to implement some two dozen other environmentally protective laws and Executive Orders.

Appropriation Summary

Fiscal Year	Amount
1982	$ 1,700,000
1983	1,125,000
1984	1,478,000
1985	1,625,000
1986	1,625,000
1987	1,750,000
1988-1992	12,100,000
Total	$21,394,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Costs
Aircraft Noise Standards	$ 580,000
Noise Prediction and Measurement	665,000
Subjective Response to Noise	55,000
Land Use Compatibility Planning	100,000

Research, Engineering and Development
Airport and Airway Trust Fund
Fiscal Year 1987

Program Title: Environment   NAS Plan No. N/A
Program Element Title: Aircraft Engine Emissions Reduction and Control

Amount: $250,000

Basis for Request

This program element accomplishes two primary objectives. It reduces air pollution associated with gaseous emissions from aircraft and airport systems, consistent with aviation safety, economic reasonableness, and technical feasibility. Emissions are monitored and assessed both in the airport environs and in the upper atmosphere, to evaluate and reduce their levels if necessary to protect the public health and welfare. This program also protects the aircraft interior environment from contamination due to radiation or trace atmospheric gases, such as ozone, which could harm passengers and crew.

Description of Solution

By statute, aircraft engine emissions standards are established by the U.S. Environmental Protection Agency and are enforced and continuously evaluated for relevancy by FAA. This program element provides the Federal focus for aviation concerns over air quality, both at airports and at cruise altitudes. This program element also develops and implements the statutory requirements of the National Environmental Policy Act to assess potential effects on airport air quality due to proposed changes in airport layout or use. As a spinoff of these efforts, potential effects of radiation and atmospheric trace gases are monitored to protect aircraft passengers and crews at cruise altitudes.

Benefits

This program element provides the technical knowledge and capability to protect the public health and welfare from air pollutants caused by civil aviation, through limiting pollutants at the source (the aircraft engines) and assessing aviation's effects on air quality throughout the air transportation system.

Appropriation Summary

Fiscal Year	Amount
1982	$ 750,000
1983	475,000
1984	250,000
1985	475,000
1986	475,000
1987	250,000
1988-1992	1,875,000
Total	$4,550,000

Cost Estimate of Work to be Funded This Year

Item	Estimated Cost
Aircraft/Airport Emissions	$ 150,000
Cruise Altitude Emissions	100,000

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
TRUST FUND SHARE OF FAA OPERATIONS
Program and Financing (in thousands of dollars)

[illegible]	85	86	87
[illegible] Program by activities:			
10.00 Total obligations (object class 25.0)	1,110,000	446,000	2,099,835
Financing:			
40.00 Budget authority (appropriation)	1,110,000	446,000	2,099,835
Relation of obligations to outlays:			
71.00 Obligations incurred, net	1,110,000	446,000	2,099,835
77.00 Adjustments in expired accounts	-2	....	....
90.00 Outlays	1,109,998	446,000	2,099,835
Summary of Budget Authority and Outlays			
Enacted/requested:			
Budget authority	1,110,000	446,000	2,099,835
Outlays	1,109,998	446,000	2,099,835
Reduction pursuant to P.L. 99-177:			
Budget authority	....	-19,178	....
Outlays	....	-19,178	....
Total:			
Budget authority	1,110,000	426,822	2,099,835
Outlays	1,109,998	426,822	2,099,835

OPERATIONS (AIRPORT AND AIRWAY TRUST FUND)

PROGRAM AND PERFORMANCE

The Airport and Airway Improvement Act of 1982 authorizes use of the Airport and Airway trust fund as the source of financing a portion of FAA's operating costs. Cost allocation studies by the FAA show that, overall, 85 percent of the cost of the FAA's programs is attributable to the users contributing to the trust fund. In 1987, it is proposed accordingly that 75 percent of the Operations appropriation be financed from the trust fund to provide an overall 85 percent recovery. Appropriate legislation is proposed to effect this level of financing.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
TRUST FUND SHARE OF FAA OPERATIONS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-8104-6-7-402	19 85	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 25.0)..........	...	-19,178	...
Financing:			
40.00 Budget authority (appropriation)	...	-19,178	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	...	-19,178	...
90.00 Outlays.....................	...	-19,178	...
These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).			
(Mono cost: 21.5)	(Mono cost: 8)	(Mono cost: 8)	(Mono cost: 4.5)

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

General Provisions

Sec. 301. During the current fiscal year applicable appropriations to the Department of Transportation shall be available for maintenance and operation of aircraft; hire of passenger motor vehicles and aircraft; purchase of liability insurance for motor vehicles operating in foreign countries on official department business; and uniforms, or allowances therefor, as authorized by law (5 U.S.C. 5901-5902).

Sec. 303. Funds appropriated under this Act for expenditures by the Federal Aviation Administration shall be available (1) except as otherwise authorized by the Act of September 30, 1950 (20 U.S.C. 236-244), for expenses of primary and secondary schooling for dependents of Federal Aviation Administration personnel stationed outside the continental United States at costs for any given area not in excess of those of the Department of Defense for the same area, when it is determined by the Secretary that the schools, if any, available in the locality are unable to provide adequately for the education of such dependents and (2) for transportation of said dependents between schools serving the area which they attend and their places of residence when the Secretary, under such regulations as may be prescribed, determines that such schools are not accessible by public means of transportation on a regular basis.

Sec. 304. Appropriations contained in this Act for the Department of Transportation shall be available for services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem rate equivalent to the rate for a GS-18.

Sec. [307] 306. None of the funds contained in this Act shall be used for the planning or execution of any program to pay the expenses of, or otherwise compensate, non-federal parties intervening in regulatory or adjudicatory proceedings funded in this Act.

Sec. [309] 307. None of the funds contained in this Act shall remain available for obligation beyond the current fiscal year unless expressly so provided herein.

Sec. [312] 308. The expenditure of any appropriation under this Act or any consulting service through procurement contract, pursuant to section 3109 of title 5, United States Code, shall be limited to those contracts where such expenditures are a matter of public record and available for public inspection, except where otherwise provided under existing law, or under existing Executive Order issued pursuant to existing law.

[Sec. 315. Not to exceed $1,700,000 of the funds provided in this Act for the Department of Transportation shall be available for the necessary expenses of advisory committees.]

[Sec. 328. (a) Title XI of the Federal Aviation Act of 1958 (49 App. U.S.C. 1501 et seq.) is amended by adding at the end thereof the following:

"AERONAUTICAL CHARTS AND MAPS

"Sec. 1118. Notwithstanding the provisions of section 1341 of title 31, United States Code, or any provision of law, the United States Government shall enter into agreements to indemnify any person who publishes a chart or map for use in aeronautics from any claim, or portion of a claim, which arises out of such person's depiction on such chart or map of any defective or deficient flight procedure or airway, if such flight procedure or airway was--

"(1) promulgated by the Federal Aviation Administration;

"(2) accurately depicted on such chart or map; and

"(3) not obviously defective or deficient."

(b) The table of contents of the Federal Aviation Act of 1958 is amended by inserting immediately after the item relating to section 1117 the following:

"Sec. 1118. Aeronautical charts and maps".]

GLOSSARY OF ABBREVIATIONS APPEARING IN FAA JUSTIFICATION

AAS	Advanced Automation System
AAS	Automated Airport Service
ACD	Automatic Call Distributor
ACF	Area Control Facility
ADAP	Airport Development Aid Program
ADAS	AWOS Data Acquisition System
ADCN	Agencywide Administrative Data Communications Network
ADP	Automated Data Processing
AERA	Automated En Route Air Traffic Control
AF	Airway Facility
AFSS	Automated Flight Service Station
AIP	Airport Improvement Program
ALS	Approach Light System
ALSIM	Airport Landside Simulation Model
AMIS	Aircraft Management Information System
AMS	Aeronautical Mobil Service
ARF	Aviation Route Forecast
ARINC	Aeronautical Radio Incorporated
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARTS	Automatic Radar Terminal System
ASAS	Aviation Safety Analysis System
ASDE	Airport Surface Detection Equipment
ASR	Airport Surveillance Radar
ATAS	Automated Traffic Advisory Service
ATC	Air Traffic Control
ATCCC	Air Traffic Control Command Center
ATCRBS	Air Traffic Control Radar Beacon System
ATCT	Airport Traffic Control Tower
ATIS	Automated Terminal Information System
ATMS	Advanced Traffic Management System
AT&T	American Telephone and Telegraph Company
AUTODIN	Automatic Digital Network
AWOS	Automated Weather Observation System
BANS	Bright Radar Indicator Tower Equipment (BRITE) Alpha-Numeric Subsystem
BPS	Bits Per Second
BRITE	Bright Radar Indicator Tower Equipment
BSMP	Budget System Modernization Plan
BUEC	Backup Emergency Communications
CAAA	Clean Air Act Amendment
CAIS	Comprehensive Airmen Information System
CAMI	Civil Aeromedical Institute
CARF	Central Altitude Reservation Functions
CBR	Commercially Based Rent
CBI	Computer Based Instruction
CCMS	Central Control Monitoring System
CCS	Controller Chart Supplement
CD	Common Digitizer
CDTI	Cockpit Display of Traffic Information
CFCF	Central Flow Control Function
CFR	Crash-Fire Rescue

COS	Change of Station
CPG	Central Program Group
CPMIS	Consolidated Personnel Management Information System
CT	Centralized Training
CWP	Central Weather Processor
CWSU	Central Weather Service Unit
DAR	Designated Airworthiness Representative
DASD	Digital Access Storage Devices
DASI	Digital Altimeter Setting Devices
DBRITE	Digital Bright Radar Indicator Tower Equipment
DECCO	Defence Commercial Communications Office
DEMARCS	Demarcation
DF	Direction Finder
DME	Distance Measuring Equipment
DOD	Department of Defense
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
DUAT	Direct User Access Terminal
DVOR	Doppler Very High Frequency Omni-Directional Radio Range
EAP	Employee Assistance Program
EARTS	Enroute Automated Radar Tracking System
ECT	Evaluation, Currency and Transportation
EFAS	Enroute Flight Advisory Service
EFR	Electronic Flight Rules
EIP	Employee Involvement Program
EIS	Enforcement Information System
EOQ	Economic Order Quantity
EPA	Environmental Protection Agency
E&R	Exchange and Repair
FAA	Federal Aviation Administration
FAAP	Federal Aid Airport Program
FAATC	Federal Aviation Administration Technical Center
F&E	Facilities and Equipment
FAR	Fair Annual Rental
FCC	Federal Communications Commission
FDD	Flight Data Display
FDIO	Flight Data Input/Output
FIFO	Flight Inspection Field Office
FL	Flight Level
FOIA	Freedom of Information Act
FPS	Military Designation for a Surveillance Radar
FRP	Federal Radio Navigation Plan
FSAS	Flight Service Automation System
FSDPS	Flight Service Data Processor System
FSS	Flight Service Station
FSTN	Federal Secure Telephone Network
FTE	Flight Technical Error
FTE	Full-Time Equivalent
FTP	Full-Time Permanent
FTS	Federal Telecommunication System
G/A	General Aviation
GPS	Global Positioning System

GSA	General Service Administration
HAT	Height Above Touchdown
HF	High Frequency
HR	Human Relations
HRM	Human Resources Management
HUD	Head-Up-Displays
IAPA	Instrument Approach Procedures Automation
ICAO	International Civil Aviation Organization
ICSS	Integrated Communication Switching System
IFM	Integrated Flow Management
IFR	Instrument Flight Rule
IFSS	International Flight Service Station
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
IRMP	Information Resources Management Plan
ISU	Inertial Sensor Unit
ITU	International Telecommunication Union
IVRS	Interim Voice Response System
JAWS	Joint Airport Weather Studies
JSS	Joint Surveillance System
LIP	Limited Installation Program
LORAN-C	Radio Navigation System (Pulsed, Hyperbolic) Operating in 90 - 110 KHZ Frequency Band
LIS	Logistics and Inventory System
L,P&HR	Labor, Personnel and Human Relations
LLWAS	Low Level Wind Shear Alert System
LRR	Long Range Radar
MAFIS	Miltiple En Route Automatic Flight Inspection System
MALS	Medium Intensity Approach Light System
MALSR	Medium Intensity Approach Light System with Runway Alignment Indicator Lights
MAR	Minimally Attended Radar
MAX-E	Modular X-ray System
MCC	Maintenance Control Centers
MDA	Minimum Descent Altitude
MLS	Microwave Landing System
MNPS	Minimum Navigation Performance System
MODE-S	Mode Select Air Traffic Control Radar Beacon System
MOPS	Minimum Operational Performance Standard
MPS	Maintenance Processor Subsystem
MSL	Mean Sea Level
MTD	Moving Target Detection
NAD	North American Datum System
NADIN	National Airspace Data Interchange Network
NAR	National Airspace Review
NARACS	National Radio Communications Systems
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NASP	National Airspace System Plan
NATCOM	National Communications Center
NAVAID	Navigational Aid
NAVSTAR	Navigation System Using Timing and Ranging
NBS	National Bureau of Standards
NCU	Navigational Computer Unit

NDB	Non-Directional Beacon
NEPA	National Environmental Policy Act
NEXRAD	Next Generation Weather Radar
NFDC	National Flight Data Center
NGS	National Geodetic Survey
NMR	Nuclear Magnetic Resonance
NOS	National Ocean Service
NPIAS	National Plan of Integrated Airport System
NPRM	Notice of Proposed Ruling
NSDO	National Security Decision Directives
NSSF	National Airspace System Simulation Support Facility
NTSB	National Transportation Safety Board
NWS	National Weather Service
OCR	Optical Character Reader
ODAPS	Oceanic Display and Probe System
OSHA	Occupational Health and Safety Administration
OMEGA	Very Low Frequency, Continuous Wave Radio Navigation System Operating in 10 -14 KHZ Frequency Range
PAPI	Precision Approach Path Indicators
PCB	Polychlorinated Biphenyl
PC&B	Personnel Compensation and Benefits
PCS	Permanent Change of Station
PCS	Power Conditional System
PDME	Precision Distance Measuring Equipment
PL	Public Law
PMIS	Personnel Management Information System
PPI	Plan Position Indicators
R&D	Research and Development
RAIL	Runway Alignment Indicator Lights
RAPCON	Radar Approach Control
RBDE	Broadband Radar Remoting and Display Equipment
RCAG	Remote Center Air/Ground
RCE	Radio Control Equipment
RCF	Remote Communications Facilities
RCMS	Runway Configuration Management System
RCO	Remote Communications Outlet
R,E&D	Research, Engineering and Development
REIL	Runway End Identification Lights
RFP	Request for Proposal
RML	Radar Microwave Link
RMLR	Radar Microwave Link Repeater
RMLT	Radar Microwave Link Terminal
RMM	Remote Maintenance Monitor
RMMS	Remote Maintenance Monitoring System
RNAV	Area Navigation
RTCA	Radio Technical Communication for Aeronautics
RTR	Remote Transmitters/Receivers
RVR	Runway Visibility Range
RVV	Runway Visibility Value
SARPS	Standards and Recommended Practices
SBIR	Small Business Innovative Research
SCFM	Standard Cubic Feet Per Minute
SEI	System Engineering and Integration
SFO	Single Frequency Outlet

SIAP	Standard Instrument Approach Procedure
SLUC	Standard Level User Charge
SOMLA	Seat Occupant Model - Light Aircraft
SPCC	Spill Prevention Counter Measure and Control
SRAP	Senor Receiver and Processor
SSB	Single Side - Band
SSR	Secondary Surveillance Radar
SSR	Solid - State Radiation
TACAN	Tactical Air Navigation Antennas
TCAB	Traffic Alert and Collision Avoidance System
TDWR	Terminal Doppler Weather Radar
TELPAK	Telephone Package
TERPS	Terminal Instrument Procedures
TMS	Traffic Management System
TMU	Traffic Management Units
TRACAB	Terminal Radar Approach Control Cab
TRACON	Terminal Radar Approach Control
TSC	Transportation System Center
TVOR	Terminal Very High Frequency Omni - Directional Radio Range
TXP	Military Designation for a Radar Beacon Processing System
UAS	Uniform Accounting System
UHF	Ultra - High Frequency
UPS	Uniform Payroll System
USAF	United States Air Force
VASI	Visual Approach Slope Indicator
VDP	Visual Descent Point
VFR	Visual Flight Rule
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOLMET	Meteorological Information for Aircraft in Flight
VOR	Very High Frequency Omni - Directional Radio Range
VORTAC	Colocated VOR and TRACON
VOT	Vor Test Signal
VRS	Voice Response System
VSCS	Voice Switching and Control System
WCP	Weather Communications Processor
WIGS	Within - Grade Salary Increases
WMSC	Weather Message Switching Center
WPMS	Work Program Management System

FEDERAL AVIATION ADMINISTRATION

AIRCRAFT PROGRAM (DIRECT) SUMMARY BY ACTIVITY

Operations (Direct)	ESTIMATED 1986 CONGRESSIONAL			ESTIMATED 1987 PROGRAM		
	Flight Hours	Positions	$ Amount	Flight Hours	Positions	$ Amount
Flight Program	54,550	324	28,340,900	59,966	324	31,497,500
Procedures Development	---	125	6,296,800	---	125	6,296,100
Repair and Stock	---	74	5,421,900	---	74	5,638,600
Modification and Services	---	31	2,597,100	---	31	2,985,300
Major Inspection	---	10	1,039,900	---	10	1,072,300
Technical Standards & Guidance	---	65	2,803,700	---	65	2,858,100
Analytical Services	---	19	772,600	---	19	783,600
Supervision & Administration	---	173	9,722,100	---	173	9,682,500
TOTAL OPERATIONS DIRECT	54,550	821	$56,995,000	59,966	821	$60,814,000

AIRCRAFT PROGRAM

SUMMARY BY APPROPRIATION

Facilities and Equipment	ESTIMATED 1986 CONGRESSIONAL Flight Hours	Positions	$ Amount	ESTIMATED 1987 PROGRAM Flight Hours	Positions	$ Amount
Aircraft and Related Equipment	---	---	2,775,000	---	---	9,091,300
Major Inspection and Modification	---	5	305,800	---	5	353,300
Facility Commissioning Flight Inspection & Logistics Support	2,395	24	2,041,600	2,395	24	2,087,700
TOTAL FACILITIES AND EQUIPMENT	2,395	29	5,122,400	2,395	29	11,532,300
TOTAL AIRCRAFT PROGRAM	56,945	850	$62,117,400	62,361	850	$72,346,300

AIRCRAFT FLEET
(End of Year Totals)

TYPE OF AIRCRAFT	NO. OF ENGINES & ENGINE TYPE	ACTUAL 9-30-85	ESTIMATE 9-30-86	ESTIMATE 9-30-87 b/
1. FAA Owned.				
A. Flight Inspection & Logistics				
Light Long Range Jet	2 Jet	[illegible]	[illegible]	[illegible]
Boeing B-727	3 Jet	[illegible]	[illegible]	[illegible]
Rockwell Int'l Sabre 80	2 Jet	[illegible]	[illegible]	[illegible]
Rockwell Int'l Sabre 40	2 Jet	[illegible]	[illegible]	[illegible]
Rockwell Int'l AC-1121	2 Jet	[illegible]	[illegible]	[illegible]
Grumman G-159	2 Turboprop	[illegible]	[illegible]	[illegible]
Convair CV-580	2 Turboprop	[illegible]	[illegible]	[illegible]
Turbine Light Twin	2 Turboprop/Jet	[illegible]	[illegible]	[illegible]
Beech F-90	2 Turboprop	[illegible]	[illegible]	[illegible]
Beech BE-200	2 Turboprop	[illegible]	[illegible]	[illegible]
Douglas DC-3	2 Piston	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
B. Evaluation, Currency & Transportation				
Lockheed L-1329 a/	4 Jet	[illegible]	[illegible]	[illegible]
Grumman G-159 a/	2 Turboprop	[illegible]	[illegible]	[illegible]
Beech C-90	2 Turboprop	[illegible]	[illegible]	[illegible]
Cessna CE-500	2 Jet	[illegible]	[illegible]	[illegible]
Beech E-90	2 Turboprop	[illegible]	[illegible]	[illegible]
Cessna CE-550 a/	2 Jet	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
C. Training				
Douglas DC-9	2 Jet	[illegible]	[illegible]	[illegible]
Rockwell Int'l Sabre 40	2 Jet	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]

TYPE OF AIRCRAFT	NO. OF ENGINES & ENGINE TYPE	ACTUAL [illegible]	ESTIMATE [illegible]	ESTIMATE [illegible]
B. [illegible] & [illegible]				
[illegible]	2 Jet	[illegible]	[illegible]	[illegible]
[illegible]	2 Turboprop	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	2 Piston	[illegible]	[illegible]	[illegible]
		7	8	8
TOTAL [illegible]		[illegible]	[illegible]	[illegible]
C. [illegible]				
a. Flight Inspection & Logistics				
Beech [illegible]	2 Turboprop	[illegible]	[illegible]	[illegible]
b. Evaluation, Testing & Transportation				
Beech [illegible]	2 Turboprop	[illegible]	[illegible]	[illegible]
c. Training				
Beech [illegible]	2 Turboprop	[illegible]	[illegible]	[illegible]
TOTAL COMMERCIAL [illegible]		[illegible]	[illegible]	[illegible]
FLEET TOTAL		[illegible]	[illegible]	[illegible]

1/ [illegible]
2/ [illegible]

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Research, Engineering and Development Program
(Budget Authority)

	FY 1986 ENACTED		FY 1987 REQUEST		DIFFERENCE	
	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT
Administration Program						
Development Direction:						
Planning, Direction and Evaluation	116	9,963,000	116	9,029,000	...	$-934,000
Aviation Medicine	8	314,200	8	314,200	...	...
Centralized Training	...	5,000	...	5,000	...	...
Direction, Staff and Supporting Services and Human Resource Management:						
Technical Center	82	3,173,900	82	3,154,776	...	-19,124
Subtotal	206	13,456,100	206	12,502,976	...	-953,124
Research, Engineering and Development Program						
Air Traffic Control	370	57,283,000	262	70,805,000	-108	13,522,000
Advanced Computer	80	98,737,000	87	22,095,000	7	-76,642,000
Navigation	78	3,890,000	62	6,210,000	-16	2,320,000
Aviation Weather	64	8,890,000	45	6,770,000	-19	-2,120,000
Aviation Medicine	74	4,749,000	74	3,767,000	...	-982,000
Aircraft Safety	179	13,452,000	115	22,445,000	-64	8,994,000
Environment	...	2,000,000	...	1,600,000	...	-400,000
Subtotal	845	$190,000,000 a/	645 b/	$134,500,000	-200	$-55,500,000

a/ Excludes $15 million transferred from F&E.
b/ Reflects a transfer of 200 positions to F&E.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Technical Center

	1986		1987	
	Pos.	Amount	Pos.	Amount
RESEARCH, ENGINEERING AND DEVELOPMENT:				
Conduct of test and evaluation (Research, Engineering and Development)	581	41,242,000	381	40,168,000
Development direction (Operations)	11	726,000	11	725,000
Subtotal	592	41,968,000	392	40,893,000
FACILITIES AND EQUIPMENT:				
Test facilities and improvements	21	18,267,400	221	18,607,000
OPERATIONS:				
TRAINING:				
Centralized Training	6	843,400	6	848,400
INSTALLATION & MATERIALS:				
Materiel, procurement, management	53	2,035,400	53	2,027,600
AIRWAY FACILITIES:				
Automation engineering support	104	7,080,100	104	8,580,100
Data engineering and development	38	2,822,000	38	3,037,000
Subtotal	142	9,902,100	142	11,617,100
AIR TRAFFIC:				
National data systems	229	8,847,100	229	7,468,100
TECHNICAL CENTER OPERATIONS:				
Medical program	2	97,800	2	103,700
Supervision, administration and maintenance of the Center	98	16,719,100	98	17,769,176
Subtotal	100	16,816,900	100	17,872,876
TOTAL PROGRAM, TECHNICAL CENTER	1,143	100,096,300	1,143	96,156,076

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Mike Monroney Aeronautical Center

	1986		1987	
	Pos.	Amount	Pos.	Amount
FAA ACADEMY:				
Conduct training program	707	67,339,200	707	78,211,200
TRANSPORTATION SAFETY INSTITUTE:				
Conduct training program	6	459,000	6	474,000
MANAGEMENT TRAINING SCHOOL:				
Conduct training program	9	3,300,000	9	3,405,000
FAA DEPOT:				
(Operations) ISM	734	65,671,400	734	65,283,900
(Facilities and Equipment)	30	11,707,405	30	10,312,410
Material, procurement, project management and shops Subtotal	764	77,378,805	764	75,596,310
CIVIL AEROMEDICAL OPERATIONS AND RESEARCH:				
Medical programs	90	2,346,300	90	2,768,100
Development Direction	2	109,000	2	109,000
Subtotal (Operations)	92	2,455,300	92	2,877,100
Direct research at Civil Aeromedical Institute Laboratories (Research, Engineering and Development)	74	4,461,900	74	3,567,000
Subtotal	166	6,917,200	166	6,444,100
AVIATION STANDARDS:				
Certification	19	884,600	19	875,000
Operations and Maintenance	82	5,802,200	82	5,963,900
Records servicing and analysis	108	3,701,000	108	3,569,000
(Operations)	782	53,019,500	782	54,312,100
(Facilities and Equipment)	29	2,775,000	29	9,091,300
Operation, maintenance, modification and overhaul of aircraft Subtotal.	811	55,794,500	811	63,403,400
Subtotal	1,020	66,182,300	1,020	73,811,300
AERONAUTICAL CENTER OPERATIONS:				
Supervisions, administrations and maintenance of the Center	440	45,539,000	440	38,450,952
AIRWAY FACILITIES:				
Airway engineering support	54	6,018,000	54	6,283,500
TOTAL PROGRAM, AERONAUTICAL CENTER	3,166	273,133,505	3,166	282,676,362
DISTRIBUTION BY APPROPRIATION:				
Operations	3,033	254,189,200	3,033	259,705,652
Facilities and Equipment	59	14,482,405	59	19,403,710
Research, Engineering and Development	74	4,461,900	74	3,567,000
Total	3,166	273,133,505	3,166	282,676,362

DEI NT OF TRANSPORTATION
FEDE VIATION ADMINISTRATION

Obligations by Object Classification
(Dollars in Thousands)

	Grand Total		Operation of Traffic Control System		Installation and Materiel Services		Maintenance of Traffic Control System		Administration of Aviation Standards	
	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987
Personnel Compensation	1,741,053	1,765,353	1,019,339	1,043,085	42,650	39,487	377,476	376,480	175,882	186,343
Personnel Benefits	305,149	280,894	141,529	110,770	5,630	4,751	49,315	50,016	28,003	29,446
Total, Personnel Compensation & Benefits	2,046,202	2,046,247	1,160,868	1,153,855	48,280	44,238	426,791	426,496	203,885	215,789
Other Objects:										
Travel and Transportation of Persons:										
Training Travel	29,656	38,951	100	100	19	19	56	57	514	578
Program Performance and Related Travel	33,258	34,481	9,052	9,052	895	895	9,192	9,315	9,833	10,560
Rental of Automobiles	5,790	5,780	180	180	382	382	3,709	3,763	1,381	1,305
All Other	5,534	5,763	3,596	3,596	53	53	857	864	726	939
Subtotal	74,238	84,975	12,928	12,928	1,349	1,349	13,814	13,999	12,454	13,382
Transportation of Things	19,102	18,422	5,360	5,360	2,157	2,157	8,981	8,118	1,979	2,126
Standard Level User Charges	26,419	29,650	0	0	26,419	29,650	0	0	0	0
Rental Payments to Others	62,849	65,831	210	210	3,966	3,003	48,261	51,492	4,448	5,222
Communications, Utilities, and Miscellaneous Charges:										
Utilities	25,837	20,480	0	0	6,653	0	18,745	20,000	401	441
Communications	38,786	41,014	613	613	19,043	20,786	9,500	9,600	1,558	1,725
Operating Equipment	4,001	4,168	847	847	1,290	1,290	1,038	1,107	707	802
All Other	3,126	3,419	0	0	205	205	771	823	833	973
Subtotal	71,750	69,081	1,460	1,460	27,191	22,281	30,054	31,530	3,499	3,941
Printing and Reproduction	11,629	12,083	414	414	10,531	10,882	416	436	160	237
Other Services:										
All Other	191,791	205,629	10,147	10,147	28,068	29,999	38,354	49,830	37,615	40,450
Services of Other Agencies	19,984	20,461	16,780	16,780	0	0	0	0	2,754	2,931
Subtotal	211,775	226,090	26,927	26,927	28,068	29,999	38,354	49,830	40,369	43,381
Supplies and Materials:										
General Stock and Stores	34,558	35,167	0	0	33,901	34,576	0	0	657	591
Aircraft Stock and Stores	4,099	4,099	0	0	4,099	4,099	0	0	0	0
All Other	27,543	28,177	1,900	1,900	2,653	2,653	10,438	10,438	10,316	10,790
Subtotal	66,200	67,443	1,900	1,900	40,653	41,328	10,438	10,438	10,973	11,381
Equipment	16,040	12,276	1,372	1,372	2,894	2,894	3,986	1,145	4,574	3,455
Lands and Structures	275	255	0	0	0	0	275	255	0	0
Insurance Claims and Indemnities	198	200	75	75	7	7	90	92	24	24
Total, Other Objects	560,475	586,306	50,646	50,646	143,235	143,550	154,669	167,335	78,480	83,149
Total, All Objects	2,606,677	2,632,553	1,211,514	1,204,501	191,515	187,788	581,460	593,831	282,365	298,938
Allocation to DOD	157,700	167,227	0	0	0	0	157,700	167,227	0	0
Total Obligations	2,764,377	2,799,780	1,211,514	1,204,501	191,515	187,788	739,160	761,058	282,365	298,938
Reduction per P.L. 99-177	(118,637)	0	(52,558)		(7,558)		(29,401)		(13,696)	
Total Obligations	2,645,740	2,799,780	1,158,956	1,204,501	183,957	187,788	709,759	761,058	268,669	298,938

DE NT OF TRANSPORTATION
FEDE AVIATION ADMINISTRATION

Obligations by Object Classification
(Dollars in Thousands)

	Development Direction		Administration of Airports Program		Human Resource Management		Direction Staff and Supporting Services		Headquarters Administration	
	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987
Personnel Compensation........	6,798	6,797	18,263	18,406	42,712	41,215	36,428	31,543	21,505	21,997
Personnel Benefits............	692	691	2,307	2,321	70,513	76,173	4,808	4,298	2,352	2,428
Total, Personnel Compensation & Benefits...	7,490	7,488	20,570	20,727	113,225	117,388	41,236	35,841	23,857	24,425
Other Objects:										
Travel and Transportation of Persons:										
Training Travel............	2	2	12	13	28,910	38,137	0	0	43	45
Program Performance and Related Travel............	177	183	695	717	900	1,120	1,457	1,503	1,057	1,136
Rental of Automobiles.......	10	11	65	67	32	40	21	22	10	10
All Other..................	0	0	39	40	0	0	189	195	74	76
Subtotal................	189	196	811	837	29,842	39,297	1,667	1,720	1,184	1,267
Transportation of Things......	2	0	30	31	362	384	161	166	70	80
Standard Level User Charges...	0	0	0	0	0	0	0	0	0	0
Rental Payments to Others.....	0	0	0	0	0	0	3,998	4,124	1,966	1,780
Communications, Utilities, and Miscellaneous Charges:										
Utilities..................	0	0	13	13	0	0	25	26	0	0
Communications.............	0	0	91	91	0	0	7,856	8,069	125	130
Operating Equipment.........	33	34	76	76	10	12	0	0	0	0
All Other..................	0	0	293	293	984	1,084	27	28	13	13
Subtotal................	33	34	473	473	994	1,096	7,908	8,123	138	143
Printing and Reproduction.....	0	0	7	7	6	10	63	65	32	32
Other Services:										
All Other..................	2,226	1,287	3,674	3,964	36,946	44,977	21,625	19,182	12,936	5,793
Services of Other Agencies....	0	0	0	0	450	750	0	0	0	0
Subtotal................	2,226	1,287	3,674	3,964	37,396	45,727	21,825	19,182	12,936	5,793
Supplies and Materials:										
General Stock and Stores....	0	0	0	0	0	0	0	0	0	0
Aircraft Stock and Stores...	0	0	0	0	0	0	0	0	0	0
All Other..................	25	26	59	61	693	803	1,047	1,080	412	426
Subtotal................	25	26	59	61	693	803	1,047	1,080	412	426
Equipment.....................	0	0	79	81	442	636	1,726	1,726	967	967
Lands and Structures..........	0	0	0	0	0	0	0	0	0	0
Insurance Claims and Indemnities..............	0	0	0	0	2	2	0	0	0	0
Total, Other Objects..........	2,475	1,543	5,133	5,454	69,737	87,955	38,395	36,186	17,705	10,488
Total, All Objects............	9,765	9,031	25,703	26,181	182,962	205,343	79,631	72,027	41,562	34,913
Allocation to DOD.............	0	0	0	0	0	0	0	0	0	0
Total Obligations........	9,965	9,031	25,703	26,181	182,962	205,343	79,631	72,027	41,562	34,913
Reduction per P.L. 99-177.....	(479)		(227)		(1,482)		(11,846)		(1,390)	
Total Obligations........	9,486	9,031	25,476	26,181	181,480	205,343	67,785	72,027	40,172	34,913

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

Aircraft Purchase Loan Guarantee Program

(Supplemental now requested, existing legislation)

For the settlement of promissory notes issued to the Secretary of the Treasury, $13,516,000, to remain available until expended together with such sums as may be necessary for the payment of interest due under the terms and conditions of such notes.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM
Program and Financing (in thousands of dollars)

Identification code 69-1399-1-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Interest (object class 43.0)...	....	1,300	....
Financing:			
39.00 Budget authority...............	....	1,300	....
Budget authority:			
40.00 Appropriation..................	....	14,816	....
40.47 Portion applied to debt reduction....................	....	-13,516	....
43.00 Appropriation (adjusted).......	....	1,300	....
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	....	1,300	....
90.00 Outlays......................	....	1,300	....
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AIRCRAFT PURCHASE LOAN GUARANTEE PROGRAM

GENERAL STATEMENT

This proposal would provide funds to repay borrowings and accrued interest to the Treasury.

U.S. Department of
Transportation

BUDGET ESTIMATES

FISCAL YEAR 1987

FEDERAL RAILROAD ADMINISTRATION

SUBMITTED FOR USE OF
THE COMMITTEES ON APPROPRIATIONS

FEDERAL RAILROAD ADMINISTRATION

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GENERAL STATEMENT

The Federal Railroad Administration's budget request for FY 1987 is $[illegible] in budget authority and [illegible] permanent positions. This level represents a reduction of $[illegible] from the FY 1986 enacted appropriations, and a reduction of $[illegible] from FY 1986 adjusted levels after taking into consideration the Deficit Reduction Act sequestrations and proposed rescissions. The FY 1987 permanent position level of [illegible] is a net decrease of 2 from the FY 1986 level of [illegible] authorized positions as explained below.

A significant change in the FY 1987 budget from FY 1986 is the proposed merger of the Rail Service Assistance appropriation into the Office of the Administrator appropriation, and the proposed merger of Railroad Research and Development appropriation with the Railroad Safety appropriation. The accompanying summary tables and narrative justifications reflect combined appropriation levels to show a more accurate and complete picture of the differences between FY 1986 and FY 1987.

Office of the Administrator. The request in FY 1987 for the combined appropriation is $[illegible] in budget authority, plus $[illegible] transferred from Conrail Labor Protection unobligated balances for Union Station and $[illegible] from Rail Service Assistance unobligated balances for administrative expenses, for a total program level of $[illegible]. The program level is an increase of $[illegible] over the $[illegible] FY 1986 adjusted program level. The increase is composed of $[illegible] in the Office of Policy contractual support, $[illegible] in Washington Union Station rent and maintenance, and $[illegible] in increased administrative costs. The FY 1987 staffing level of [illegible] permanent positions reflects a reduction of [illegible] staff positions.

As shown on Table 1, the sequestration by program, project and activity has been adjusted in order to request approval for taking the full $[illegible] reduction from Policy Support contracts (Contract Support line item) in order to minimize the adverse effect on personnel.

Railroad Safety. The combined Railroad Safety/Research and Development appropriation request for FY 1987 is $[illegible] in budget authority plus $[illegible] million carryover to fully fund the Automated Track Inspection Program for a total program level of $[illegible]. This is a net decrease of $[illegible] from the FY 1986 adjusted program level of $[illegible] primarily resulting from the reduced Research and Development program level and no funding for the Grants-in-aid for Railroad Safety in FY 1987. The request for [illegible] permanent positions reflects an increase of six over the FY 1986 authorized level. The increased request is for five Deputy Regional Directors and an alcohol and drug abuse training specialist.

As shown on Table 1, the sequestration by program, project and activity requests the full $1,194,000 Railroad Safety (excluding R&D) reduction be applied to the Grants-in-Aid for Railroad Safety line item: by reducing $440,000 from the $1.5 million appropriation and reprogramming $754,000 from the Grants-in-Aid carryover balances to offset the Federal Enforcement reduction, in order to keep the Federal safety program operating at the same FY 1986 level and minimize the impact on Federal safety inspector hiring and travel allowances.

Railroad Rehabilitation and Improvement Financing Funds, Federal Financing Bank (FFB) Direct Loans. The budget authority shown in this account represents drawdowns at the FFB by the railroads on the direct loans guaranteed under section 511 by the Federal Railroad Administration. This account was previously shown in the Federal Financing Bank's direct loans schedule and within the Federal Railroad Administration's "Status of Guaranteed Loans" schedule.

FY 1986 Rescissions. Three programs are proposed to be rescinded in FY 1986 (net of the Gramm-Rudman-Hollings Deficit Reduction Act sequestrations): Local Rail Service Assistance ($14,355,000); Northeast Corridor Improvement Program ($11,962,000); and the Redeemable Preference Share Program ($32,059,000).

Standard Level User Charges (SLUC). FRA's FY 1987 budget contains $1,800,000 for Standard Level User Charges (office space) composed of $849,000 in Office of the Administrator and $951,000 for Railroad Safety. This is a reduction of $80,000 from the FY 1986 level of $1,880,000.

Office of the Secretary's Working Capital Fund. FRA's FY 1987 budget contains $1,517,200 for payment to OST, $1,047,700 in Office of the Administrator and $469,500 for Railroad Safety. This is an increase of $191,900 from the FY 1986 level of $1,325,300.

Consulting Services. No funds are requested for consulting services in FY 1987.

The following tables provide funding comparisons for Fiscal Years 1986-1987 and staffing comparisons for Fiscal Years 1985-1987.

TABLE 1

Summary of Budget Authority, FY 1986-FY 1987
(in thousands of dollars)

	FY 1986 Enacted	FY 1986 after Sequestering	FY 1986 Adjusted	FY 1987 Estimate
Office of the Administrator.......	$30,320	$29,016	$14,661	$10,958
Salaries and Expenses........	9,622 1/	9,209 1/	9,597 1/	9,723 10/
Contract Support.............	1,088	1,041	653 6/	1,180
Washington Union Station.....	4,610	4,411	4,411	55 11/
Local Rail Service Assistance	15,000	14,355	... 7/	...
Railroad Safety...................	38,364	36,714	36,714	35,819
Federal Enforcement..........	22,564	21,594	21,810 8/	22,364
Automated Track Inspection Program....................	100 2/	96 2/	100 2/	200 12/
Safety Regulation and Program Administration.	3,600	3,445	3,600	3,674
Grants-In-Aid for Railroad Safety.....................	1,500 2/	1,435 2/	1,060 9/	...
Research and Development.....	10,600 3/	10,144 3/	10,144 3/	9,581
Commuter Rail Service.............	... 4/	... 4/	... 4/	...
Northeast Corridor Improvement Program.........................	12,500	11,962	... 7/	...
Grants to the National Railroad Passenger Corporation (Amtrak)..	587,500 5/	562,237 5/	562,237 5/	...
Railroad Rehabilitation and Improvement Financing Funds Redeemable Preference Shares.	33,500	32,059	... 7/	...
Total......................	702,184	671,988	613,612	46,777
FFB Transactions............	1,600	1,600	1,600	3,714
Adjusted Total..............	$703,784	$673,588	$615,212	$50,491

1/ Excludes $1,300,000 from unobligated balances to support administrative expenses.
2/ Excludes $1,100,000 from unobligated balances.
3/ Excludes $4,636,000 from unobligated balances.
4/ Excludes $5 million transfer from unobligated balances in UMTA's Rail Modernization Program.
5/ Excludes $28.5 million transfer from unobligated balances in Conrail Labor Protection appropriation.
6/ Proposed Program, Project and Activity adjustment to take the full $435,000 sequestration amount out of this line item.
7/ Reflects proposed rescissions shown under a separate tab elsewhere in this budget document.
8/ Excludes $754,000 reprogrammed from Grants-in-Aid unobligated balances.
9/ Proposed Program, Project and Activity adjustment to take $440,000 sequestration amount out of this line item to minimize critical safety programs and minimize adverse personnel actions
10/ Excludes $1,310,000 from unobligated balances of Rail Service Assistance to support administrative expenses.
11/ Excludes $4,565,000 from unobligated balances of Conrail Labor Protection for rent and maintenance.
12/ Excludes $1,000,000 from unobligated balances.

TABLE II

Limitation on New Loan Guarantee Commitments
(in thousands of dollars)

	FY 1986 Enacted	FY 1986 after Sequestering	FY 1986 Adjusted	FY 1987 Estimate
Railroad Rehabilitation and Improvement Financing Funds:				
Loan guarantees.............	$ 4,000	$ 3,828	$ 3,828	$ ...

TABLE III

Summary of Authorized Positions
FY 1985 - FY 1987

	FY 1985	FY 1986	FY 1987	FY 1987 over (+) or under (-) FY 1986
Office of the Administrator......	212	204	196	-8
Railroad Safety..................	460	458	464	+6
Northeast Corridor Improvement Program.........................	7	...	...	...
Total......................	679	662	660	-2

TABLE IV

Summary of Total Full-Time Equivalents (FTEs)
FY 1985 - FY 1987

	FY 1985	FY 1986	FY 1987
Office of the Administrator......	209	230	187
Railroad Safety..................	448	458	464
Northeast Corridor Improvement Program.........................	15	...	...
Subtotal...................	672	688	651
Alaska Railroad Revolving Fund...	148	...	...
Total......................	820	688	651

TABLE V

Summary of Full-Time Permanent End-of-Year Employment
FY 1985 - FY 1987

	FY 1985	FY 1986	FY 1987
Office of the Administrator.....	198	193	184
Railroad Safety.................	437	444	456
Northeast Corridor Improvement Program......................	12	...	...
Total....................	647	637	640

OFFICE OF THE ADMINISTRATOR
(Including Transfer of Funds)

For necessary expenses of the Federal Railroad Administration, not otherwise provided for, [$10,120,000] including authorized expenses associated with Washington Union Station, $16,833,000, of which $4,620,000 shall remain available until expended, and providing that $4,565,000 shall be derived from unobligated balances of "Conrail labor protection" and $1,310,000 shall be derived from unobligated balances of "Rail Service Assistance"; Provided, That none of the funds provided under this Act shall be available for the planning or execution of a program making commitments to guarantee new loans under the Emergency Rail Service Act of 1970, as amended, and that no new commitments to guarantee loans under section 211(a) or 211(h) of the Regional Rail Reorganization Act of 1973, as amended, shall be made.

[RAIL SERVICE ASSISTANCE]

[For necessary expenses for rail service assistance authorized by section 5 of the Department of Transportation Act, as amended, for Washington Union Station, as authorized by Public Law 97-125, and for necessary administrative expenses in connection with federal rail assistance programs not otherwise provided for $20,200,000, to remain available until expended: Provided, That none of the funds provided under this Act shall be available for the planning or execution of a program making commitments to guarantee new loans under the Emergency Rail Services Act of 1970, as amended, and that no new commitments to guarantee loans under section 211(a) or 211(h) of the Regional Rail Reorganization Act of 1973, as amended, shall be made: Provided further, That none of the funds in this Act shall be available for the acquisition, sale or transference of Washington Union Station without the prior approval of the House and Senate Committees on Appropriations: Provided further, That, of the funds available under this head, $15,000,000 shall be available for allocation to the States under section 5(h)(2) of the Department of Transportation Act, as amended: Provided further, That, notwithstanding any other provision of law, a State may not apply for fiscal year 1986 funds available under section 5(h)(2) until such State has expended all funds granted to it in the fiscal years prior to the beginning of fiscal year 1981, other than funds not expended due to pending litigation: Provided further, That a State denied funding by reason of the immediately preceding proviso may still apply for and receive funds for planning purposes: Provided further, That, notwithstanding any other provision of law, of the funds available under section 5(h)(2), $10,000,000 shall be made available for use under sections 5(h)(3)(B)(ii) and 5(h)(3)(C) of the Department of Transportation Act, as amended, notwithstanding the limitations set forth in section 5(h)(3)(B)(ii).] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11 Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

Program and Financing (in thousands of dollars)

Identification code 69-0700-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Direct program:			
00.01 Salaries and Expenses..........	11,927	11,536	11,033
00.02 Contractual Support............	2,504	8,958	1,180
00.03 Loan guarantee defaults.........	8,310	...	...
00.04 Washington Union Station........	4,250	5,131	4,620
00.05 Local rail service assistance...	8,196	36,670	...
09.01 Total direct program........	35,187	62,295	16,833
01.01 Reimbursable program............	115	100	100
10.00 Total obligations..........	35,302	62,395	16,933
Financing:			
11.00 Offsetting collections from: Federal funds................	-115	-100	-100
17.00 Recovery of prior year obligations...................	-5,957	...	...
21.40 Unobligated balance available, start of year................	-20,434	-33,285	-1,310
22.40 Unobligated balance transferred, net..........................	...	...	-4,565 1/
24.40 Unobligated balance available, end of year...................	33,285	1,310	...
25.00 Unobligated balance lapsing.....	39	...	...
39.00 Budget authority...........	42,120	30,320	10,958
Budget authority:			
40.00 Appropriation..................	102,401	30,320	10,958
40.47 Portion applied to debt reduction................	-60,281	...	...
43.00 Appropriation (adjusted)....	42,120	30,320	10,958

1/ Transferred from Conrail Labor Protection unobligated balance.

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STANDARD FORM 300
July 1964, Bureau of the Budget
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300-106

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

Program and Financing (in thousands of dollars)

Identification code 69-0700-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	35,187	62,295	16,833
72.40 Obligated balance, start of year.......................	96,274	63,419	73,594
74.40 Obligated balance, end of year.......................	-63,419	-73,594	-41,228
77.00 Adjustments in expired accounts......................	-498	...	...
78.00 Adjustments in unexpired accounts......................	-5,957	...	...
90.00 Outlays....................	61,587	52,120	49,199
Distribution of budget authority by account:			
Office of the Administrator......	10,700	10,120	10,958
Rail service assistance..........	31,420	20,200	...
Distribution of outlays by account:			
Office of the Administrator......	9,923	10,420	14,787
Rail service assistance..........	51,664	41,700	34,412

Note-FRA's guarantee of direct loans made by the United States Railway Association (USRA), previously shown in FRA are now reflected in USRA, regional rail reorganization program.

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested:			
Budget authority....................	42,120	30,320	10,958
Outlays............................	61,587	52,120	49,199
Reduction pursuant to P.L. 99-177:			
Budget authority....................	...	-1,304	...
Outlays............................	...	-741	-344
Rescission proposal:			
Budget authority....................	...	-14,355	...
Outlays............................	...	-5,455	-4,019
Total:			
Budget authority....................	42,120	14,661	10,958
Outlays............................	61,587	45,924	44,836

OFFICE OF THE ADMINISTRATOR

PROGRAM AND PERFORMANCE

The 1987 budget includes funds previously appropriated under the Rail Service Assistance account.

Salaries and expenses. --Provides for salaries and related expenses for the Office of the Administrator and his immediate staff, Chief Counsel, Civil Rights, Public Affairs, Office of Administration, Office of Policy and the Office of Passenger and Freight Services. Together these offices resolve national problems confronting the railroad industry and provide top level support to the Federal Railroad Administrator.

Contract support. --The Office of Policy uses contractual support to develop positions regarding various proposed structural changes in the railroad industry such as mergers and the sale of Conrail to the private sector. Contractual support is also used to conduct internal studies dealing with traffic, economic forecasting, financial condition, and other factors that contribute to an efficient national freight railroad network. In 1985 and 1986 this program also provided contractual support to Federal assistance programs, labor-management activities, railroad rehabilitation and improvement financing funds, grants to the National Railroad Passenger Corporation and the Conrail labor protection program.

Loan guarantee defaults. --Interest due to the Department of Treasury on rollover of promissory notes issued in prior years was paid off in a 1985 supplemental request.

Washington Union Station. --The Department of Transportation assumed responsibility for leasing Washington Union Station in 1984. In 1987 funds will be used for rental, maintenance, operation and security services of that facility, as in 1986. For this purpose, unobligated balances are transferred in from Conrail Labor Protection.

Local rail service assistance. --This program provides discretionary and formula grants to all States for rail planning and for track rehabilitation of light density lines. No funds are requested in 1987.

Reimbursable program. --In 1985, the National Highway Traffic Safety Administration shared the expense of enhancing certain accounting systems. In addition, the Maritime Administration and the Office of the Secretary shared the expense of contracting a grain transportation study with the University of Illinois. Any future activities will be of this same nature.

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-103

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0700-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	8,063	8,322	7,947
11.3 Other than full-time permanent..	297	279	405
11.5 Other personnel compensation..............	165	135	135
~~11.8 Special personal services payments~~.........			
11.9 Total personnel compensation............	8,525	8,736	8,487
Personnel benefits:			
12.1 Civilian..............................	889	851	729
13.0 Benefits for former personnel..................	14	11	235
21.0 Travel and transportation of persons..........	165	153	113
22.0 Transportation of things..........................	1	1	1
23.1 Standard level user charges.....	709	887	849
23.3 Comm. utili. & misc. charges....	394	363	287
24.0 Printing and reproduction..........................	162	165	110
25.0 Other services..............................	7,650	14,343	5,914
26.0 Supplies and materials........................	86	66	71
31.0 Equipment	86	49	37
~~32.0 Lands and structures~~.......................			
~~33.0 Investments and loans~~......................			
41.0 Grants, subsidies, and contributions............	8,196	36,670	...
~~42.0 Insurance claims and indemnities~~............			
43.0 Interest and dividends........................	8,310	...	...
~~44.0 Refunds~~..............................			
99.0 Subtotal direct obligations	35,187	62,295	16,833
99.0 Reimbursable obligations	115	100	100
99.9 Total Obligations...............	35,302	62,395	16,933

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

Personnel Summary

Identification code 69-0700-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Total number of full-time Permanent positions..................	212	204	196
Total compensable workyears:			
Full-time equivalent Employment......................	209	230	187
Full-time equivalent of overtime and holiday hours..............	2	2	2
Average ES salary...............	69,371	69,731	69,731
Average GS grade................	11.1	11.3	11.4
Average GS salary...............	36,179	37,207	37,756

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Circular No. A-11, Revised
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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-0700-6-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations...............	...	-1,304	...
Financing:			
40.00 Budget authority (appropriation)...............	...	-1,304	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	...	-1,304	...
72.40 Obligated balance, start of year.........................	...	...	-563
74.40 Obligated balance, end of year.........................	...	563	219
90.00 Outlays......................	...	-741	-344

OFFICE OF THE ADMINISTRATOR

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR

NARRATIVE JUSTIFICATION
(Dollar amounts in thousands)

	FY 1986 Adjusted 1/	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority......	$14,661	$10,958	-$ 3,703
Program Level.........	(15,961)	(16,833)	(+ 872)
Permanent Positions...	204	196	-8

General Statement

This account combines functions previously carried out under the Rail Service Assistance appropriation with the functions under the Office of the Administrator appropriation. It provides funds for the Executive Direction and Administration, Policy Support, Passenger and Freight Services salaries and expenses, contractual support, and Washington Union Station rent and maintenance costs.

Executive Direction and Administration provides top level direction necessary to resolve critical problems confronting the railroad industry and to accomplish FRA's goals and objectives. The organizational units are: the Immediate Office of the Administrator, Public Affairs office, Office of Civil Rights, Chief Counsel's office, and the Office of Administration. Administration support performs administrative support functions for Federal Railroad Administration including the Office of Personnel and Training, Management Systems, Procurement, and Financial Services.

The Policy Support activity develops policies to assist in overcoming a variety of railroad freight and passenger problems. These are approached through the collection and analysis of data, the conduct of studies, and the active dissemination of findings. We will continue to put emphasis on planning and developing a consistent body of government policy that will contribute to an efficient and privately-owned national freight railroad network, while minimizing the burden on the general taxpayer.

The Policy Support function also contemplates the maintenance of an emergency transportation capability, in the event of natural disaster or defense emergency. This resource capability is required pursuant to DOT and FEMA directives and would provide railroad transportation policy guidance as required in an emergency to civil and defense planners.

Basic authorizing legislation for both Executive Direction and Administration and Policy Support is contained in the Department of Transportation Act, P.L. 89-670.

Passenger and Freight Services provide necessary expenses for rail service assistance authorized by section 5 of the Department of Transportation Act, as amended for Washington Union Station, and for necessary administrative expenses in connection with Federal rail service assistance.

The following accomplishments were achieved during 1985:

- Successfully concluded the transfer of the Alaska Railroad to the State of Alaska on January 5, 1985. Follow-up actions have included the successful defense of personnel actions, the collection of receivables, and the payment of claims pertaining to Federal ownership of the railroad.

- Managed the Department's Union Station redevelopment project. Prepared the contract and participated in the selection of a construction manager for the project, developed the contract and procedures for station water drainage system, negotiated development agreement with the preferred developer, and participated in the development of the project's Minority Business Plan.

- Successfully defended the Government in cases involving FRA's local rail service financial assistance program, personnel actions, tort actions, and contract appeals.

- Participated in the preparation of Departmental submissions before the ICC; negotiated Northeast Corridor Project agreements; and assisted in the issuance of High-Speed Rail study grants.

- Successfully instituted an annual civil penalty enforcement case cycle by closing all pre-1984 cases by December 1984. This major effort resulted in the reduction of a $16 million backlog of enforcement cases to a $4 million load of currently pending cases. During the first nine months of fiscal year 1985, reached settlements totalling $6 million, the highest collection level in the past five years.

- Facilitated the hiring of 45 Railroad Safety Inspectors.

- The Conrail bidding process was completed resulting in the selection of Norfolk Southern as the most qualified purchaser for Conrail.

- Filed comments in major ICC proceedings concerning establishment of guidelines for assessing intermodal competition and product and geographic competition, deregulation of joint line boxcar traffic and revisions to the car hire system for boxcars and other types of railroad equipment.

Accomplishments (continued)

- Based on the Office of Policy's findings, the Department filed an evaluation of the most favorable treatment of the debt to the Government among the several offers for the acquisition of the Chicago, Milwaukee, St. Paul and Pacific Railroad Company. A number of additional filings were also made including comments on the ICC's draft Environmental Impact Statement - Coal Rate Guidelines, and opposition to the railroads' proposal to extend for two more years, antitrust immunity for collective consideration of inflation-based joint rate increases.
- Conducted discussions with key officials on the return of Conrail to the private sector and solicited their concerns.
- Continued to coordinate the activities of the National Planning Committee on Voluntary Prevention Programs and assisted in the implementation of the final rule on Alcohol and Drug Abuse Prevention.
- Assumed responsibility and issued revised agency procedures for the handling of Freedom of Information requests and processed all requests for information.
- Administered 53 existing LRSA grants totalling $18 million; evaluated 74 applications and executed new grant agreements totalling $18 million.
- Assisted several communities and shippers with the rail restructuring/abandonment process and the transportation options open to them.
- Worked with Amtrak to assure successful implementation of an austerity program to reduce annual deficits, and improve implementation of its capital program.
- Successfully transferred NECIP management responsibility to Amtrak from FRA.
- Held several conferences to assist in the planning of system consolidation under section 401.
- Hosted regional seminars to launch "Operation Red Block" as a national voluntary alcohol and drug prevention program.
- Fostered employee participation experiments such as "quality circles" and productivity enhancements on several railroads.
- Instituted the first labor-management cooperative program on a commuter railroad.

Summary Table

Budget Authority by Activity	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
1. Salaries and Expenses . .	$ 9,597	$ 9,723	+$ 126
Program Level	(10,897)2/	(11,033)3/	(+ 136)
2. Contractual Support . . .	653	1,180	+ 527
3. Washington Union Station.	4,411	55	- 4,356
Program Level	(4,411)	(4,620) 4/	(+ 209)
Total Budget Authority	$14,661 1/	$10,958 5/	-$ 3,703
Total Program Level	($15,961)	($16,833)	(+$ 872)

Detailed Justification

1. Salaries and Expenses

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority . . .	$ 9,597	$ 5,158	-$ 4,439
Program Level.	(10,897)	(11,033)	(+ 136)
Permanent Positions. .	204	196	-8

This program area includes the salaries and related expenses to pay for the staff and support services required for the accomplishment of Office of the Administrator activities. The program level of $11,033,000 for FY 1987 reflects an increase of $136,000 over FY 1986 level of $10,897,000. This increase reflects a transfer of $1,310,000 from FY 1986 Rail Service Assistance unobligated carryover. This appropriation also includes reductions of $342,000 for the elimination of 8 Amtrak employees and $38,000 reduction in office space rental from FY 1986.

1/ Includes Budget Authority and positions previously funded under the Rail Service Assistance appropriation.

2/ Includes $1,300,000 of FY 1985 unobligated balance transferred from Contractual Support.

3/ Includes $1,310,000 of FY 1986 unobligated balance transferred from Rail Service Assistance.

4/ Includes $4,565,000 transferred from Conrail Labor Protection unobligated balance.

5/ Includes Budget Authority and positions previously funded under the Rail Service Assistance appropriation.

Summary Table

	FY 1986 Adjusted	FY 1987	FY 1987 over(+) or under (-) FY 1986
a. Executive Direction and Administration	113	113	---
b. Office of Policy	48	48	---
c. Executive Director	4	4	---
d. Office of Passenger and Freight Services	39	31	-8
Total Positions	204	196	-8

a. Executive Direction and Administration

The Executive Direction portion of the activity provides support and guidance to deal with critical policy issues confronting the railroad industry and maintains open communication with FRA personnel and the general public concerning FRA's activities. It also insures that all FRA programs receive the legal counsel and support necessary to achieve FRA's goals, attaining a representative FRA work force which includes minorities and women in occupational series where underrepresentation exists.

The Administration part of the program provides management system support in the areas of organization and manpower, including management procedures and duties, paperwork directives and reports management, ADP management, and information management. This activity also provides personnel support necessary to accomplish FRA program goals and objectives by recruiting and training qualified personnel; procurement support; and financial assistance and administrative support to all elements of FRA.

b. Office of Policy

Policy Support provides for the development of policies designed to promote the railroad mode within the private transportation sector. Funding for Office of Policy in part supports the development of FRA positions for participation in the Interstate Commerce Commission (ICC) proceedings and legislative initiatives; provides for continuous evaluation of the railroad industry at the corporate level determining its health in terms of possible structural changes requiring Federal response; develops large scale computerized railroad related data banks for quantitative analysis in support of the formulation of FRA policies; monitors Conrail operations and assists with the process of returning this freight operation to the private sector; provides Conrail staff support to the Secretary as a member of the USRA Board of Directors; and maintains a budget resource system of justification, formulation, execution and control functions, and conducts in-depth program reviews and evaluations.

c. Executive Director

Provides advice and direction on the development of the agency's plans and policies and participates in or coordinates implementation within FRA of critical path issues and initiatives, including sale of Conrail to the private sector, improving Amtrak efficiency, and railroad safety improvements, especially alcohol and drug abuse prevention. Administers Freedom of Information Act responsibilities for the agency.

d. Passenger and Freight Services

This program funds the managers and analysts assigned to the Freight Assistance Programs, the Community and Shipper Assistance Staff, FRA's remaining responsibilities under the NECIP, and the immediate staff of the Associate Administrator for Passenger and Freight Services.

2. Contractual Support

Summary Table

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(a) Economic Analysis	$ 158	$ 273	+$ 115
(b) Industry Analysis	140	279	+ 139
(c) Systems Analysis	355	628	+ 273
Total	$ 653	$1,180	+$ 527

Provides studies and analyses of economic and industry trends for the purpose of supporting merger analysis and other structural changes taking place within the Railroad Industry. Also, includes time share and other ADP support as well as Interagency Agreements such as agreement with ICC in support of the Waybill program.

a. ECONOMIC ANALYSIS

Background

The Economic Analysis program supports the development of FRA policy positions for participation in Interstate Commerce Commission (ICC) proceedings and legislative initiatives. Areas of concern include railroad rate regulation, ICC exemptions from regulation, effects of regulatory and legislative changes on competition between railroads and other modes of transport, rail mergers, and rail acquisition of non-rail modes. As described below, these functions cover a wide range of policy questions. Given the number of issues that may arise, it will be necessary to concentrate contract resources on only a few priority areas, those which could have the greatest impact on the railroad industry and its shippers.

Program Structure and Objectives

The Economic Analysis program includes three major activities which support the development of FRA policy:

(1) Regulatory Analysis - Provide economic research on the effects of actual and proposed regulatory changes on shippers and on the railroad industry.

(2) Multimodal/Intermodal Analysis - Provide analysis to support policy recommendations on regulatory and legislative multimodal and intermodal national transportation issues.

(3) Forecasting and Model Development - Provide forecasting support to FRA and development of necessary analytical tools for in-house analyses.

Resources

The following table compares FY 1986 Economic Analysis funding with that requested for FY 1987:

ECONOMIC ANALYSIS

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) Regulatory Analysis.....	$ 53	$115	+$62
(2) Multimodal/Intermodal Analysis..............	42	63	+ 21
(3) Forecasting and Model Development...........	63	95	+32
Total.................	$158	$273	+$115

Justification

(1) Regulatory Analysis.................................. $115

Changes in the regulatory environment must be examined for their effect on the shipping public. Since the Staggers Act, there have been a number of significant changes which make regulatory analysis especially important. By FY 1987, the industry will have had three years' experience with some form of boxcar deregulation, and there should also be a sufficient number of cases in which the ICC's guidelines for maximum rates will have been applied to permit evaluation of their effect. It is likely that the system for determining car hire will have undergone substantial changes, and it is likely that the determination of carload revenue adequacy will still be an important issue. All these areas will require analysis by FRA. Additionally, in FY 1987, as in every year, there will be issues not foreseeable at this time--for example, mergers--that will require attention.

(2) Multimodal/Intermodal Analysis.........................$ 63

Intense competition as well as cooperation among railroads and other modes are becoming increasingly important as regulatory constraints have been lifted from rail and other modes. In FY 1985, the acquisition of American Commercial Barge Lines by CSX Corporation and Norfolk Southern Corporation's purchase of North American Van Lines required assessments of both the domestic barge and truck transportation markets as they relate to the railroads in order to support formulation of the Department's policy position in ICC proceedings concerning the two transactions. The introduction of larger size and weight limits for trucks, longer combination vehicles on the highways, and double-stack container train technology will all bring further changes in the railroad's competitive environment. Analyses of the effects of these changes to support development of Federal policy is an ongoing responsibility.

(3) Forecasting and Model Development......................$95

The Office purchases, jointly with the Maritime Administration, a number of forecasting models and data bases covering both general economic trends and relationships and those specific to the rail and overall transportation sectors, which are applied in staff analyses. The data bases offered valuable background material for the Office's analysis of the likely effects of the national rail strike in September 1982, which were used to support the Department's recommendations to the President and the Congress for the legislation that brought an end to the strike. The same model used in that analysis was applied in preparation for the possibility of a strike against Conrail in 1983, and the threat of a breakdown in national contract negotiations in 1985. The Office will continue to update and modify it for use in evaluating the effects of any future strikes, work stoppages, or disruptions in service on the railroads to which the Department must be prepared to respond. The models and data bases also can be used to support assessments of the viability of individual railroads or portions of the rail system under varying conditions in transportation or other sectors, the effects on railroads, of changes in tax policies, or adjustments in the pattern of coal production and railroad coal traffic due to new sulfur emissions regulations or other environmental policies which may be proposed.

b. INDUSTRY ANALYSIS

Background

The Industry Analysis program provides the primary mechanism within the Office of the Administrator for periodic evaluation of the railroad industry at the corporate level. These evaluations include the continuous development of financial information, traffic shares and operating statistics in forms readily useable by all elements of FRA. Because of a progressive and unrelenting pattern of merger and acquisition in the railroad industry, individual railroad financial and operating performance is often masked by consolidated accounting requirements and must be unraveled before the measures of performance can be meaningfully used by analysts. Once the measures are adjusted so that they are specific and comparable they are useable by Policy, Legal and Rail Safety staff to determine the impact of programs, initiatives and issues. These measures also form the policy basis for FRA/DOT participation in merger/acquisition cases before the ICC as well as to monitor regional performance of smaller firms within the industry.

Program Structure and Objectives

The Industry Analysis program is comprised of several elements involving analysis and determination of revenue generating abilities and financial/accounting analysis, as follows:

(1) Structural and Traffic Analyses - Provide base line and projected revenue capabilities to determine cash effects of alternative industry configurations.

(2) Comparative Analyses of Selected Railroads - Provide individual assessments of specific railroads in terms of operating and traffic outlook and resultant financial condition.

(3) Financial Monitoring of the Industry - Provide regular reports and findings on the state of the industry as a whole, incorporating the near-term economic outlook and utilizing standard financial forecasting tools.

(4) Policy Evaluations, Special Studies and Support - Provide up-to-date financial data and related information, together with specific analytical capabilities. Examples include structural assessments of rail-motor coordinated services, military mobilization needs and the interchange of traffic with Canada and Mexico.

Resources

The following table compares FY 1986 Industry Analysis funding with that requested for FY 1987:

INDUSTRY ANALYSIS

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) Structural and Traffic Analysis..............	$ 35	$ 99	+$64
(2) Comparative Analyses of Selected Railroads....	17	27	+10
(3) Financial Monitoring of the Industry..........	47	72	+25
(4) Policy Evaluations, Special Studies and Support..............	41	81	+ 40
Total.................	$140	$279	+$139

Justification

(1) Structural and Traffic Analyses........................$99

The continuing process of industry consolidation by merger or acquisition of major railroads continues to involve active Departmental participation before the ICC. Mergers such as Union Pacific/Missouri-Kansas-Texas, Santa Fe-Southern Pacific, involve numerous states, railroad and shipper interests, and formulation of sound Departmental policy requires thorough analysis of traffic and financial outcomes. Other large scale mergers are likely to occur in the form of fewer but larger cross-continental rail systems. The sheer size and scope of these transactions assures prolonged litigation and places a premium upon accurate financial prediction of impacts. During FY 1987, the progress of current cases before the ICC should lead other railroads to engage in affiliation, either by merger/acquisition or by the growing use of traffic interchange agreements. In each case, effects upon affiliated carriers and competitors require analyses of the financial impact of the proposal.

(2) Comparative Analyses of Selected Railroads..............$ 27

The financial condition of individual railroads varies substantially over time, due to regional economic trends, operating conditions and competition from other railroads and other modes. In addition, restructuring proposals may sharply affect the financial condition of other carriers. This activity analyzes such trends on an individual carrier basis. Due to expected additional mergers creating transcontinental systems, it will be even more important to perform frequent analyses on certain railroads, as several small, more regionalized railroads could be placed in financial jeopardy by such larger systems.

(3) Financial Monitoring of the Industry....................$ 72

Work performed under this activity contemplates the serial process of generating quarterly and annual reports on financial performance of individual railroads. These reports are generated through reprogramming of statistical data from several sources (ICC, AAR, SEC) and form the basic data bank for all FRA financial analyses. Work in FY 1987 will focus upon the production of new formats and graphics, as well as further implementation of production cost savings described in prior year budget submissions.

(4) Policy Evaluations, Special Studies and Support..........$ 81

This category of activities responds to the need of the Administrator for special financial analyses and data assembly. Past examples include analyses of the financial features of the Milwaukee acquisition by the Soo Line, the Union Pacific/Missouri-Kansas-Texas merger and analyses of traffic protective conditions sought by parties opposing the Santa Fe-Southern Pacific merger. This category of activities also provides for special analyses of railroad impacts due to work stoppage by rail employees or in major user industries, to fulfill FRA/DOT Crisis Center Plan mandates. Requests by Defense for specific industry analyses to support issues in the Rails for National Defense Program are also contemplated, on an as-needed basis. Finally, the explosive growth of short line railroads is anticipated to require special financial analysis of traffic growth or decline, in view of the possibility of a transcontinental merger initiative occurring during FY 1987.

c. SYSTEMS ANALYSIS

Background

This program provides for the maintenance, update, and further development of large scale computerized railroad-related data banks. It also provides for quantitative analysis in support of the formulation of FRA policies.

Program Structure and Objectives

The Systems Analysis program includes four major areas:

(1) Model Development and Maintenance - Provides for the upkeep of up-to-date models that represent the complete national railroad system, the defense essential rail network, and rail traffic density distribution.

(2) Waybill Statistics - Provides for FRA's share of the contractual costs of processing waybill records.

(3) Miscellaneous Evaluations, Data Analysis and Studies - Provides for analytical and quantitative support of FRA policy studies and analyses.

(4) Data Base Development and Maintenance - Provides for the development of financial, traffic and rail operations data bases in support of miscellaneous evaluations and studies.

Resources

The following table compares FY 1986 Systems Analysis funding with that requested for FY 1987:

SYSTEMS ANALYSIS

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) Model Development and Maintenance................	$134	$226	+$ 92
(2) Waybill Statistics...........	60	90	+ 30
(3) Miscellaneous Evaluation, Data Analysis, and Studies	67	136	+ 69
(4) Data Base Development and Maintenance.................	94	176	+ 82
TOTAL	$355	$628	+$273

Justification

(1) Model Development and Maintenance.....................$226

This program includes maintenance and use of several key computer models and the underlying data bases: U.S. Rail Network, Defense Essential Network and Rail Traffic Density. The data bases are broad and comprehensive and the models are detailed. They are important tools to FRA, industry representatives, the AAR and others in evaluating proposed changes in railroad organization and structure, preparing forecasts of future rail traffic, and determining rail line utilization and capacity to carry traffic such as coal and grain shipments. In FY 1987, we anticipate continued efforts to reregulate the industry so an increased use of models will be essential. Data bases enhancement will be required in countering this effort.

(2) Waybill Statistics....................................$90

The annual sample of railroad waybills gathered and processed by ICC is the only detailed source of nationwide rail traffic flow and revenue data. In FY 1987, FRA will reimburse the ICC for FRA's share of the contractual costs of processing waybill records. Waybill data have been used by the ICC, the Association of American Railroads, numerous Government bodies and members of the public for the development of testimony on rates, mergers and reorganization cases, and other issues before the ICC, as well as in the conduct of marketing, economic impact, safety, and other analyses. FRA makes the most extensive use of the waybill data, applying it in formulating short- and long-term national policy, developing recommendations for assisting with railroad service performance improvements, increasing safety and assessing intermodal and intramodal competition and impact of regulatory reform.

(3) Miscellaneous Evaluation, Data Analysis, Studies, and Support Costs......................................$136

This activity provides analytical support for preparation of testimony, correspondence, or critical policy studies as the need arises. In the past, support was provided for analysis of a number of major restructuring proposals, such as the Southern Pacific acquisition of the Tucumcari line, the Union Pacific-Missouri/Kansas/Texas merger, C&NW access to the Powder River Basin, the UP/MP/WP merger, deregulation of coal export rates, acquisition of the Milwaukee Railroad, Santa Fe/Southern Pacific merger, as well as forecasting 1990 traffic and assessing the essential Defense network. In 1987, concerns may include additional mergers, further consolidation of fixed facilities and other restructuring of the U.S. rail system, and legislative and regulatory changes.

(4) Data Base Development and Maintenance.................$176

In FY 1987, FRA will continue to develop multi-purpose data bases which include revenue, expense and investment data for all Class I railroads, wage data, quarterly commodity statistics, railroad operating data, and equipment and facility records arranged by geographic code to permit identification by market areas. These data provide an essential resource in carrying out financial, economic and operations analyses which support FRA's policy development.

3. Washington Union Station

BACKGROUND

The Union Station Redevelopment Act of 1981 authorized the transfer of Union Station in Washington, D. C. from the Department of the Interior to the Department of Transportation upon the request of the Secretary of Transportation. Interior transferred the Union Station lease to the Department on March 7, 1984. Through that date, Interior paid rent, maintenance, and security costs with funds transferred from DOT. Subsequent to that date, DOT has provided funds for rent, maintenance, and security.

PROGRAM STRUCTURE AND OBJECTIVES

The Washington Union Station program is a unit by itself with no sub-programs. The primary objective is to provide funds for rent, maintenance, operation and security.

RESOURCES

The following table compares FY 1986 Washington Union Station funding with that requested for FY 1987:

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority	$ 4,411	$ 55	-$4,356
Program Level	(4,411)	(4,620)	(+ 209)

JUSTIFICATION

In FY 1987 we are contractually obligated to pay $3.5 million in rent to the private owners of Union Station. The remaining $1.120 million will provide minimal maintenance, operation, and security services. An increase in program level reflects a transfer of $4,565,000 from Conrail Labor Protection unobligated balances. There is a minimal increase in program level of $209,000 over FY 1986 required to fund the station support services. However, greater security services will be required in FY 1987 than FY 1986 during the peak construction period to protect property and personnel.

RAILROAD SAFETY

For necessary expenses in connection with railroad safety, not otherwise provided for, [$27,764,000] $35,819,000, including research and development of which [$1,500,000] $9,781,000 shall remain available until expended.

[RAILROAD RESEARCH AND DEVELOPMENT]

[For necessary expenses for railroad research and development, $10,600,000, to remain available until expended.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964 Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY

Program and Financing (in thousands of dollars)

Identification code 69-0702-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Direct program:			
00.01 Federal enforcement	19,733	22,564	22,364
00.02 Automated track inspection program	768	1,200	1,200
00.03 Safety regulation and program administration	5,018	3,600	3,674
00.04 Grants-in-aid for railroad safety	3,043	2,254	...
00.05 Research and development	14,969	20,964	9,581
00.91 Total direct program	43,531	50,582	36,819
01.01 Reimbursable program	375	1,000	1,000
10.00 Total obligations	43,906	51,582	37,819
Financing:			
11.00 Offsetting collections from: Federal Funds	-375	-1,000	-1,000
17.00 Recovery of prior year obligations	-1,768	...	...
21.40 Unobligated balance available, start of year	-18,619	-13,218	-1,000
22.40 Unobligated balance transferred, net	5,000	...	...
24.40 Unobligated balance available, end of year	13,218	1,000	...
25.00 Unobligated balance lapsing	54	...	...
40.00 Budget authority (appropriation)	41,416	38,364	35,819
Relation of obligations to outlays:			
71.00 Obligations incurred, net	43,531	50,582	36,819
72.40 Obligated balance, start of year	20,454	17,773	18,455
74.40 Obligated balance, end of year	-17,773	-18,455	-10,169
77.00 Adjustments in expired accounts	-345	...	...
78.00 Adjustments in unexpired accounts	-1,768	...	...
90.00 Outlays	44,098	49,900	45,105
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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY

Program and Financing (in thousands of dollars)

Identification code 69-0702-0-1-401	1985 actual	1986 estimate	1987 estimate
Distribution of budget authority by account:			
Railroad safety..................	26,061	27,764	35,819
Railroad research and development....................	15,355	10,600	...
Distribution of outlays by account:			
Railroad safety..................	27,932	29,800	33,271
Railroad research and development....................	16,166	20,100	11,834

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested			
Budget authority....................	41,416	38,364	35,819
Outlays............................	44,098	49,900	45,105
Reduction pursuant to P.L. 99-177			
Budget authority....................	...	-1,650	...
Outlays............................	...	-1,240	-317
Total:			
Budget authority....................	41,416	36,714	35,819
Outlays............................	44,098	48,660	44,788

RAILROAD SAFETY

PROGRAM AND PERFORMANCE

The 1987 budget includes funds previously appropriated under the Railroad Research and Development account.

Federal enforcement. --This program provides salaries and related expenses for safety field operations designed to reduce the number of railroad related accidents/incidents. Federal inspectors monitor railroads for compliance with Federal laws with specific emphasis on passenger and hazardous material routes. In addition, this staff provides training to Federal, State and railroad industry personnel on related safety enforcement activities, including programs dealing with the problem of alcohol and drug abuse. Budgeted field positions for 1987 will increase from the 1986 level of 379 to 385.

Automated track inspection program. --One set of FRA's automated track inspection vehicles has been transferred to Guilford Industries under a licensing agreement. The license requires Guilford to make the data from automated inspections available to FRA track inspectors upon request. Another set of vehicles completed a system survey of Amtrak routes on November 30, 1984, and is stored in Philadelphia pending disposition. The final car, self-propelled T-10, is operating under the supervision and planning of FRA's Office of Safety and will survey approximately 25,000 miles of track in 1987.

Safety regulation and program administration. --This program funds the salaries and related expenses of safety headquarters personnel, data gathering and dissemination, planning and evaluation activities and administration of the State grants-in-aid program. The ongoing responsibility of this program is to issue new or revised standards, procedures, and regulations to provide a safer railroad environment. This program also administers technical training and management of rail-highway grade crossings.

Grants-in-aid for railroad safety. --This program assists States in paying salaries and expenses incurred for State safety inspectors on a 50-percent cost-sharing basis. No funds are requested in 1987.

Research and development. --This program provides for the conduct of safety research and development including the salaries and related expenses of the research project management staff. The research conducted encompasses all aspects of existing railroad operations and maintenance as well as new industry developments and trends. The scope of work undertaken ensures the safe performance (1) of equipment, including critical components; (2) of the track structure, its components and other elements of the right-of-way; (3) of the railroad system operating as a whole, including the dynamic interaction between rail vehicles and the track structure on which they travel; (4) of the transport of hazardous materials; and, (5) of the operating practices employed in running the Nation's railroads. In addition, other Government agencies provide reimbursements for the conduct of research, development, testing, evaluation and analyses unique to the technical expertise and research capability of this program.

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-103

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0702-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent positions..	16,044	16,840	17,280
11.3 Other than full-time permanent.	212	110	125
11.5 Other personnel compensation	219	198	202
~~11.8 Special personal services payments~~			
11.9 Total personnel compensation	16,475	17,148	17,607
Personnel benefits:			
12.1 Civilian	2,086	2,205	2,310
13.0 Benefits for former personnel	71	...	...
21.0 Travel and transportation of persons	2,767	2,860	2,870
22.0 Transportation of things	57	70	70
23.1 Standard level user charges....	958	993	951
23.3 Comm., utili. & misc. charges..	566	590	605
24.0 Printing and reproduction	270	160	165
25.0 Other services	16,878	24,012	11,941
26.0 Supplies and materials	128	120	130
31.0 Equipment	232	170	170
~~32.0 Lands and structures~~			
~~33.0 Investments and loans~~			
41.0 Grants, subsidies, and contributions	3,043	2,254	...
~~42.0 Insurance claims and indemnities~~			
~~43.0 Interest and dividends~~			
~~44.0 Refunds~~			
99.0 Subtotal direct obligations	43,531	50,582	36,819
99.0 Reimbursable obligations.......	375	1,000	1,000
99.9 Total obligations..............	43,906	51,582	37,819

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY

Personnel Summary

Identification code 69-0702-0-1-401	19 85 actual	1986 estimate	1987 estimate
Total number of full-time permanent positions..........................	460	458	464
Total compensable workyears:			
Full-time equivalent employment....	448	458	464
Full-time equivalent of overtime and holiday hours................	5	6	7
Average ES salary..................	69,600	69,600	71,340
Average GS grade...................	11.35	11.78	11.82
Average GS salary..................	36,650	37,400	39,200

(Memo cost: 21.5) (Memo cost: 5) (Memo cost: 5) (Memo cost: 4.0)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY
REDUCTION PURSUANT TO PUBLIC LAW 99-177
Program and Financing (in thousands of dollars)

Identification code 69-0702-6-1-401	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations.............	...	-1,650	...
Financing:			
40.00 Budget authority (appropriation)............	...	-1,650	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net....	...	-1,650	...
72.40 Obligated balance, start of year....................	...	...	-410
74.40 Obligated balance, end of year.......................	...	410	93
90.00 Outlays...................	...	-1,240	-317
(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])

RAILROAD SAFETY

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

RAILROAD SAFETY

NARRATIVE JUSTIFICATION
(Dollar amounts in thousands)

	FY 1986[1/] Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority.........	$36,714	$35,819	-$895
Program Level............	($43,204)	($36,819)	(-$6,385)
Permanent Positions......	458	464	+6

General Statement

The Federal role in the Railroad Safety program is to protect railroad employees and the public by ensuring the safe operation of passenger and freight trains. The authority to accomplish this role is found in the Federal Railroad Safety Act of 1970 (as amended), the Department of Transportation Act, and the Hazardous Materials Transportation Act.

The mission of the Office of Safety is to develop, administer, and enforce effective programs to achieve safety operating and mechanical practices in the railroad industry. The Office of Safety through its regional offices is responsible for the enforcement of Federal railroad safety regulations and standards.

The Research and Development program finances contract and in-house research activities as well as salaries and expenses necessary for supervisory, management, and administrative functions in the Office of Research and Development, including internal review, control, analysis, overall planning, and reporting. The mission of this activity is to "manage the research, development, and demonstration of all aspects of railroad safety research and intercity ground transportation in order to improve safety and stimulate beneficial advances in railroad technology."

In Fiscal Year 1987, this program will sustain the high emphasis on safety. It will allow the conduct of critical research (1) in support of FRA's safety rulemaking responsibility, assuring that independent and objective views are not compromised, and (2) for improving the overall safety of railroad operations.

[1/] Includes Budget Authority and positions previously funded under the Railroad Research and Development appropriation.

Research projects are undertaken as a result of Congressional guidance; recommendations of the National Transportation Safety Board; proposals from industry to change safety regulations, operating procedures, or engineering specifications; efforts to improve the efficiency and reliability of safety inspection practices; identification of major adverse accident trends; conditions or circumstances which have produced or indicate the potential to cause catastrophic railroad accidents; and in anticipation of safety needs resulting from the development of new railway systems or operating circumstances.

The FRA research program is increasingly addressing potential safety threats before major problems begin to occur with regularity. FRA does not conduct R&D activities which should be done by the industry. In those situations where the public interest will not be compromised, FRA and industry resources are pooled and safety testing is coordinated and progressed hand-in-hand with the development of new systems by the railroads, suppliers, and manufacturers. This approach minimizes the potential for future adverse safety and economic impacts. The research program is using the Small Business Innovative Research (SBIR) Program (P.L. 97-219) to develop innovative solutions to troublesome safety problems. The SBIR program has produced worthy proposals to augment other research efforts and will continue to be used to its best potential.

Accomplishments

The following major accomplishments occurred during 1985:

- A final rule was issued to increase the monetary threshold from $4,500 to $4,900 for reporting rail accidents/incidents.

- Amended the Railroad Locomotive Safety Standards to eliminate or reduce certain reporting and recordkeeping requirements that are no longer necessary for safety.

- Amended the Railroad Operating Rules to eliminate the annual report for railroads with fewer than 400,000 annual manhours. This action will reduce the burden of Federal regulations and associated paperwork requirements on small railroads.

- Amended the Freight Car Safety Standards. This made technical corrections to eliminate confusion over the proper measurement of the discoloration on freight car wheels after being subjected to thermal abuse.

- o A public hearing was held to obtain information for evaluating future courses of action regarding safety at rail-highway crossings.
- o In FY 1985, three systemwide assessments were completed. FRA will continue the systemwide assessment approach and three assessments will be completed in FY 1986.
- o Issued comprehensive regulations on the control of alcohol and drug use in railroad operations. The regulations contain a prohibition, post accident testing after major accidents, reasonable cause testing authority, require pre-employment drug screens, require treatment programs for troubled employees and require improved accident reporting.

Note: Research and Development objectives and accomplishments are included in the Narrative Justification.

Summary Table

Budget Authority by Activity	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
1. Federal Enforcement........	$21,810	$22,364	+$554
Program Level......	22,564 1/	(22,364)	(-200)
2. Automated Track Inspection Program..	100	200	+100
Program Level....	(1,200) 2/	(1,200) 3/	(...)
3. Safety Regulation and Program Administration	3,600	3,674	+74
4. Grants-in-Aid for Railroad Safety.....	1,060	...	-1,060
5. Research and Development	10,144	9,581	-563
Program Level.....	(14,780) 4/	(9,581)	(-5,199)
Total Budget Authority	36,714	$35,819	-$895
Total Program Level	($43,204)	($36,819)	(-$6,385)

1/ Includes $754,000 from FY 1985 unobligated carryover reprogrammed from the Grants-In-Aid program.
2/ Includes $1,100,000 from FY 1985 unobligated carryover.
3/ Includes $1,000,000 from FY 1986 unobligated carryover.
4/ Includes $4,636,000 from FY 1985 unobligated carryover..

Detailed Justification

1. Federal Enforcement

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority.........	$21,810	$22,364	+$554
Program Level..........	($22,564)	($22,364)	(-$200)
Permanent Positions			
Professional...........	325	331	+6
Clerical...............	54	54	...
TOTAL........	379	385	+6

Federal enforcement of regulations and standards is accomplished through a force of Federal inspectors located throughout the United States. This program currently provides for the salaries and related expenses for a field staff of 379 (325 professional and 54 clerical). We are requesting an increase of 6 professional positions in FY 1987.

In concurrence with the President's efforts to reduce the deficit in FY 1987, Railroad Safety will reduce $600,000 in administrative expenses. This is partially offset by an increase of $400,000 for six new positions.

Training Specialist (1)

In an effort to provide more effective and timely training to the Federal and state enforcement staffs and to the railroad industry, FRA hired four regional training specialists in FY 1983. These specialists conduct training on a regional or sectional basis at a reduction in cost and time as compared to formalized classroom training. If FRA's monitoring or assessment activities indicate a particular problem or deficiency concerning compliance with operating rules or poor train handling, these individuals work cooperatively with the railroads to improve that situation. These training specialists are also engaged in emergency response training, with railroads and local emergency response personnel. An additional FRA training specialist is needed to assist the railroads in improving carrier programs dealing with the problem of alcohol and drug abuse.

On July 29, 1985, FRA issued a final rule to control the use of alcohol and drugs by railroad employees. One element of the rule requires all railroads to establish counseling and rehabilitative services for employees affected by alcohol and drug problems. FRA, through the requested training specialist, will assist in the establishment of these counseling programs and will provide continuing assistance with cooperative program evaluations and information exchange.

Deputy Regional Directors (5)

The FRA's safety program has been dramatically changed during the past four years to accommodate the drastic regulatory changes in the railroad industry. Further, organizational and technological changes in the industry brought about by economic deregulation and mergers have created demands on FRA field forces, which have never before existed. In addition, Regional Directors have been involved in System Assessments and Safety Conferences since 1979.

These changes have necessitated almost daily contact by FRA's Regional Directors with senior level railroad executives and national rail labor representatives.

In order to facilitate the necessary effectiveness of FRA's safety program, an annual National Inspection Plan has been implemented. This plan, which is developed by each Regional Director and approved by Washington Headquarters, provides a tool for the coordination of all FRA field personnel and State inspection forces from the 32 participating States. Coordination with high level State officials must, of course, be done by the FRA Regional Director.

These ever increasing demands upon the Regional Director severely hamper his ability to efficiently manage the day-to-day affairs of the region which dictates a need for management assistance in our larger regions.

The Deputy Regional Directors will be assigned in those regions having the highest level of railroad activity: Philadelphia, Chicago, Kansas City, Fort Worth, and Atlanta. The establishment of a position of Deputy Regional Director of Railroad Safety will greatly enhance FRA's ability to continue to manage an efficient and effective railroad safety program.

2. Automated Track Inspection Program (ATIP)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority.........	$100	$200	+$100
Program Level............	($1,200)	($1,200)	(...)

The FRA Office of Safety owns five full-size rail vehicles which have been used to survey track geometry. One set of the automated track inspection vehicles (T-2, a track survey vehicle and T-4, a crew support vehicle) has been transferred to Guilford Industries under a licensing agreement. This agreement is in the process of being renewed for another year. A second set (T-1 and T-3) is in storage. The Government of Mexico has expressed an interest in this consist and this is being explored at the present time.

The ATIP budget for FY 1987 provides for the continuation of the operation and maintenance of the fifth vehicle, FRA's self-propelled track geometry inspection vehicle known as T-10. An FRA automated survey activity of 25,000 miles per year is essential to monitoring the industry's compliance with the Federal Track Standards. Routes of concentrated hazardous material shipment and rail passenger movements will continue to receive priority.

3. Safety Regulation and Program Administration

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
a. Salaries and Expenses........	$2,100	$2,174	+$74
b. Contractual Services			
(1) Data Management	1,000	1,000	...
(2) Planning and Evaluation	500	500	...
Subtotal Contractual Ser.	1,500	1,500	...
TOTAL........	$3,600	$3,674	+$74
Permanent Positions			
Professional.....	52	52	...
Clerical.........	12	12	...
TOTAL........	64	64	...

a. Salaries and Expenses.............................$2,174

The Office of Safety headquarters staff consists of the Immediate Office of the Associate Administrator, the Office of Safety Enforcement, and the Office of Safety Analysis.

The Immediate Office of the Associate Administrator provides overall direction to FRA's safety enforcement, regulatory, and data development programs. The office consists of the Associate Administrator for Safety, the Deputy Associate Administrator, the Executive Assistant, and administrative support.

The Office of Safety Enforcement provides direction to the Office of Safety field enforcement staff. In addition, it provides the engineering and railroad operations expertise for the development and interpretation of railroad safety regulations and administers technical training activities.

The Office of Safety Analysis manages the rail safety planning, budgeting and evaluation systems. These activities include the conduct of benefit-cost analysis involving regulatory initiatives, the administration of the safety data management systems, and management of FRA's rail-highway grade crossing program.

A general administrative cost increase of $116,000 is partially offset by a decrease in rental space cost of $42,000 for a net increase of $74,000 in this line item.

b. Contractual Services

(1) Data Management.............................$1,000

Through the Data Management Program, FRA prepares special reports and tapes in response to requests for information from unions, the Association of American Railroads (AAR), States, the Congress, and the general public. Also included in the Data Management Program is information support for independent analyses (cost-benefit) of proposed safety regulatory actions.

The core of the Data Base Management System is the Rail Safety Information System (RSIS) which consists of accident/incident, inspection, and grade crossing inventory data bases. Funding for this program provides for the continuous computer support costs and upgrading of the system components as described below:

- The Grade Crossing Inventory, which contains information on the 412,000 railroad/highway crossings in the country and a variety of parametric measures related to the risk of an accident at each crossing.
- The Rail-Highway Grade Crossing Accident/Incident File, which contains all the grade crossing accidents in the United States involving rail and highway users in a given year.
- The Railroad Injury and Illness Summary File, which identifies the time lost by employees through injury or illness and the number and types of cases. The file also includes information on injuries to persons other than employees.

- The Railroad Inspector Reports File, which is comprised of reports of FRA field safety inspectors in five major areas: track, signals, hazardous materials movements, motive power and equipment, and operating practices.
- The Rail-Equipment File contains all reportable railroad accidents in the United States. This includes damages, method of operations, type of train, causes of accidents and other related information.

(2) Planning and Evaluation............................$500

A total of $500,000 is requested for the conduct of the following activities planned for FY 1987.

1. Studies and contractual assistance to support the Office of Safety's regulatory process. FRA's alcohol and drug regulation contains provisions that will require post accident testing of employees following an estimated 200 significant railroad accidents per year. The process will involve about 1,500 samples of blood and urine annually.

   The Federal Aviation Administration's Civil Aero-Medical Institute (CAMI) in Oklahoma City currently conducts post accident toxicological testing after aviation accidents. Under a reimbursable agreement CAMI has agreed to perform the tests and furnish results to the employees, railroads and FRA. FAA requires about $170,000 annually to cover personnel costs, supplies, contract services and other administrative expenses associated with this effort.

2. Accident analyses will be performed using the Train Operations Simulator (TOS) which simulates different scenarios of train speed, braking application and terrain characteristics. The results can be compared with data from the accident. The Research and Locomotive Evaluator/Simulator (RALES) will be used to assist in determining proper train make-up and train handling and in the training of locomotive engineers.

3. Quick response studies will be conducted if potential problems arise with specific pieces of railroad equipment. Operational testing would be done as necessary.

4. Grants-in-Aid for Railroad Safety

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority.........	$1,060	...	-$1,060

In FY 1987, FRA proposes to eliminate the Federal cost-sharing portion of the State inspection program. States are committed to this program with or without Federal funding.

FRA will continue to train state inspectors and coordinate and consolidate their inspection plans into FRA's National Inspection Plan. That plan is revised annually to reflect current safety issues and to establish the priority of Federal inspection efforts and ensure coordination with state safety programs. No change in the program's functional authorization is requested.

5. Research and Development

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority......	$10,144	$9,581	-$563
Program Level.........	($14,780)	($9,581)	(-$5,199)
Permanent Positions...	15	15	...

The primary objectives of the Research and Development program are to reduce the frequency and severity of railroad accidents, anticipate danger to the public, and to improve safety conditions for railroad employees. These objectives are accomplished by providing the technical and analytical foundation necessary to support the Administration's rulemaking and enforcement role in promoting railroad safety as well as to encourage voluntary safety improvements by the industry.

The FY 1986 obligations were partially funded from savings results of prior year appropriations obtained through cost avoidance, reduction, and efficiency efforts thereby permitting a reduction in the FY 1986 appropriation. The new budget authority in FY 1986 combined with the prior year savings was the program level for that year and is reflected in parentheses. The FY 1986 budget column reflects obligations authorized under the Railroad Research and Development appropriation. The FY 1987 budget request is intended to be appropriated under the Railroad Safety appropriation as funds to be used until expended.

	FY 1986[1] Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
a. Equipment, Operations, and Hazardous Materials Safety......	$2,814 ($4,358)[2]	$2,600 ($2,600)	-$214 (-$1,758)
b. Track Safety..........	3,299 (4,852)	2,900 (2,900)	-399 (-1,952)
c. Track-Train Safety Testing..............	2,806 (4,345)	2,800 (2,800)	-6 (-1,545)
d. Administration........	1,225	1,281	+56
Total Budget Authority Total Program Level...	$10,144 ($14,780)	$9,581 ($9,581)	-$563 (-$5,199)
Permanent Positions	15	15	...

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[1] Funding under the Railroad Research and Development Appropriation.
[2] Amounts in parentheses indicate program level.

a. Equipment, Operations, and Hazardous Materials Safety Program

Background

The Equipment, Operations, and Hazardous Materials Safety Program directly supports the rail safety responsibility and the authority specifically conferred in the Federal Railroad Safety, Hazardous Materials Transportation, and Occupational Safety and Health Acts of 1970, as amended. The program focuses on research necessary to provide for safe operation of railroads by considering critical equipment, components, operating practices, and hazardous materials transport in the railroad environment. This program is conducted with cooperation and cost-sharing from private sector organizations including the Association of American Railroads (AAR), Railway Progress Institute (RPI), Brotherhood of Locomotive Engineers (BLE), United Transportation Union (UTU), and several individual railroads. During FY 1987, the non-federal share of total research costs within this program is expected to be 23 percent.

Program Structure and Objectives

The Equipment, Operations, and Hazardous Materials Safety Program elements and the associated research objectives in support of the rulemaking process, enforcement activities, and enhanced safety practices are as follows:

(1) Equipment and Components - Provides sound technical information and analytical procedures necessary for evaluation of railroad equipment failures, including determination of cause, as well as the development of preventive measures through improved test procedures for new and untried cars, and improved inspection procedures and tools.

(2) Operating Practices - Provides the information, methodologies, and/or aids necessary to enhance the safety of railroad operating practices with special emphasis on human factors. Provides guidelines and tools to improve the ability of railroad management and employees to safely and efficiently complete maintenance and train handling tasks in the railroad environment.

(3) Hazardous Materials - Provides factual data, emergency response methods and procedures, and protective countermeasures necessary to minimize potentially catastrophic results that may occur in a railroad accident involving the transport of hazardous materials.

Resources

The following project table compares the Fiscal Year 1986 Equipment, Operations, and Hazardous Materials Safety Program with that requested for Fiscal Year 1987. The General Justifications for these program elements follow the table.

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) EQUIPMENT AND COMPONENTS	$1,124 (1,403)	$910 (910)	-$214 (-493)
(a) Continue to examine the safety aspects of selected new and advanced freight car and suspension system designs at the Transportation Test Center (TTC).	600 (600)	310 (310)	-290 (-290)
(b) Continue to test inspection devices which will effectively detect cracked and/or overstressed freight car wheels as well as overheated wheels or journals.	200 (300)	200 (200)	... (-100)
(c) Test improved locomotive crashworthiness devices and modifications to improve locomotive control equipment and compartment.	100 (200)	200 (200)	+100 (...)
(d) Assess reliability and safety aspects of monitoring systems for indicating freight train air brake capability under all conditions and evaluate technology for substantially improving braking of long, heavy trains.	224 (303)	200 (200)	-24 (-103)
(2) OPERATING PRACTICES	550 (650)	350 (350)	-200 (-300)
(a) Continue to evaluate the operating practices of one or more railroad employee crafts and demonstrate methods for reducing unsafe practices.	200 (200)	200 (200)	... (...)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(b) Continue to assess the state of readiness of railroad and community emergency response personnel to safely handle railroad accidents involving hazardous materials. Emphasis will be on training, emergency response planning and the availability of appropriate guidelines.	$150 (250)	$150 (150)	... (-$100)
(c) Develop educational material to make school bus, hazardous materials, and construction equipment drivers and law enforcement officers more aware of highway-railroad grade crossing hazards and the most common accident causes.	200 (200)	... (...)	-200 (-200)
(3) HAZARDOUS MATERIALS	1,140 (2,305)	1,340 (1,340)	+200 (-965)
(a) Conduct tests to develop fire protection requirements for tank cars carrying chemicals with low vapor pressures but which may require additional protection because of unusual characteristics.	... (100)	100 (100)	+100 (...)
(b) Continue to evaluate tank car construction materials and head-end protection systems of tank cars involved in accidents; assess the effectiveness of devices designed to detect how materials hold up after an accident.	90 (155)	100 (100)	+10 (-55)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(c) Demonstrate the capability of systems which will detect the concentration of hazardous materials released from rail tank cars in accident situations: evaluate procedures now employed by on-site crews when responding to railroad accidents to determine their optimum efficiency and effectiveness.	$200 (200)	$200 (200)	... (...)
(d) Continue to evaluate and validate the puncture resistance of lower pressure tank containers not previously examined through scale model and full size testing, at the Transportation Test Center.	150 (200)	200 (200)	+$50 (...)
(e) Continue to evaluate the vehicle dynamic response characteristics, critical speeds, and lateral/vertical forces of tank cars and intermodal hazardous materials container carrying cars to reduce the number of derailments and possible release of hazardous materials.	200 (400)	300 (300)	+100 (-100)
(f) Evaluate the adequacy of the puncture and fire protection requirements of newly designed radioactive materials containers/spent nuclear fuel casks in a railroad accident environment, and develop emergency response equipment requirements.	200 (400)	240 (240)	+40 (-160)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(g) Investigate improvements to and recent failures of tank cars in the area of body design, relief valves, insulation, and components to reduce the potential for hazardous materials releases, and the resultant evacuation, emergency response and clean up.	$200 (400)	$200 (200)	... (-$200)
(h) Investigate improved loading techniques for hazardous materials to reduce the potential for employee and public injury due to spills or other releases.	... (100)	... (...)	... (-100)
(i) Develop emergency response procedure and equipment guidelines for railroad yard hazardous materials accidents and develop integrated railroad and community emergency response plans.	... (250)	... (...)	... (-250)
(j) Investigate corrosion and surge problems associated with tank car rupture disks to reduce the uncontrolled release of hazardous materials.	100 (100)	... (...)	-100 (-100)
TOTAL	2,814 (4,358)	2,600 (2,600)	-214 (-1,758)

General Justification

(1) Equipment and Components

The failure of freight car components such as wheels, axles, bearings, and brakes can cause serious railroad accidents, endangering neighboring residents as well as railroad employees. Continuing development and application of countermeasures are aimed at reducing the likelihood of such failures due to heavier wheel loads, reduced carbody weight, advanced car designs, and changes in railroad operating procedures.

No new efforts will be initiated in FY 1987. Research and Development efforts will continue to ensure safety of advanced freight car designs and new suspension systems. Similarly, FRA will continue efforts to test non-destuctive devices to detect incipient wheel and bearing failures. R&D efforts will also continue to evaluate safer locomotive control compartments, crew alerter devices, and improved train braking systems.

(2) Operating Practices

A substantial portion of railroad employee job-related and other railroad accidents are attributable to human behavior and railroad management practices that lead to situations which produce a negative response from employees or others. To change the status quo, it is necessary to assess the value of traditional railroad safety procedures and the circumstances that lead to undesirable situations. This program is designed to evaluate the training of railroad employees and the supervisory conditions under which they must work in order to identify probable causes of unfavorable human behavior interactions and to create an improved employee/management relationship which would lead to safer work conditions. Other factors to be examined are the work environment, functional job demands, and communication practices. These conditions are especially important when nuclear and other hazardous materials are present, increasing the risk of potential calamity.

FY 1985 efforts, including those started in previous years, were concentrated on: (1) locomotive engineer training and performance evaluation; (2) protective clothing and equipment for personnel responding to railroad accidents involving hazardous materials; (3) approaches to identify and measure unsafe behavior followed by training and motivational techniques to change the undesired behavior; and (4) locomotive engineer vigilance. Research areas (3) and (4), began in FY 1985, and will continue into FY 1987. Beginning in FY 1986, attention was focused on: railroad and community capabilities to respond to accidents involving hazardous materials on short line railroads; train dispatchers; and, the selection of locomotive engineer trainees. Also, material was developed for use in connection with Operation Lifesaver in broadening its approach to educate the public of the hazards of railroad-highway grade crossings. No new efforts are planned for FY 1987.

The decrease in funding requested for FY 1987 provides for continuing projects started in prior years.

(3) Hazardous Materials

The development and validation of protective systems for the largest tank cars and the most volatile commodities has led to regulatory mandates and car retrofits that produced dramatic improvements in the safe rail transport of the most threatening hazardous materials. Certain other hazardous materials transported by rail may still pose a high potential for catastrophic consequences if involved in an accident.

Continued research will identify the nature of these threats and evaluate the levels of tank car protection needed for safe haul of lower pressure but, nonetheless, toxic commodities. In FY 1987, the emphasis will continue to be on safety issues associated with:
(1) specific commodities usually carried in low-pressure tank cars;
(2) spent nuclear wastes when transported in railroad casks; and
(3) tank car design improvements. The project dealing with intermodal shipment of hazardous materials will also continue in FY 1987.

Evaluation of tank cars involved in accidents is to be continued through FY 1987 to test specific devices. Work on emergency response procedures will be continued through FY 1987 with prior year funding. Research will also continue on systems to identify the hazardous materials that may be involved in a rail accident as well as procedures used by emergency response personnel. The reduction of the program level in FY 1987 reflects the completion of the project started in FY 1986 on tank car corrosion and surge problems and a reduction in funding for other tank car safety programs.

b. Track Safety Program

Background

This program directly supports the rail safety responsibility and authority specifically conferred by the Federal Railroad Safety Act of 1970, as amended. The Track Safety Program focuses on improving the safety of the track structure, including all of its critical components, and other elements of the right-of-way.

This program is conducted with the cooperation and some cost-sharing from private sector organizations including the American Railway Engineering Association, Association of American Railroads, several individual railroads, and suppliers. These groups are expected to contribute about 15 percent of the estimated project costs in the Track Safety Program.

Program Structure and Objectives

The Track Safety Program elements and their associated research objectives in support of the rulemaking process, enforcement activities, and safety improvements are as follows:

(1) Track and Components - Provides sound technical information, analytical procedures, and guidance that will improve the reliability of track structural components and determine their safe operating limits given certain defects and excessive wear.

(2) Inspection-Detection - Provides the inspection equipment, techniques, and methodologies necessary to ensure early and reliable detection and warning of unsafe track conditions.

(3) Performance Standards - Provides analytical and factual data necessary to redefine safety requirements in terms of overall track structure and component performance standards which are directly related to the failure mechanisms, rather than relying on rigid design specifications which rapidly become outdated.

Resources

The following project table compares the Fiscal Year 1986 Track Safety Program with that requested for Fiscal Year 1987. The General Justification for these program elements follow the table.

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) TRACK AND COMPONENTS	$1,200 (1,723)	$730 (730)	-$470 (-993)
(a) Conduct testing using the Facility for Accelerated Service Testing (FAST), at the TTC to: (1) provide the test data on the cause and rate of rail deterioration and defect occurrence as affected by tonnage, lubrication, support conditions, and temperature variations supporting the completion of the rail integrity performance standard; and (2) demonstrate the ability of the completed performance standards for track geometry to provide the necessary safety margins for a variety of freight cars.	1,200 (1,723)	330 (330)	-870 (-1,393)

	FY 1986 Adjusted	FY 1987	F 1987 over (+) or under (-) FY 1986
(b) Conduct testing on the TTC tracks to demonstrate the ability of the completed track buckling performance standard to provide the necessary safety margin to prevent track buckling when exposed to temperature variations, railcar loading, train braking, and locomotive traction.	... (...)	$400 (400)	+$400 (+400)
(2) INSPECTION-DETECTION	744 (994)	565 (565)	-179 (-429)
(a) Provide engineering and technical support to instrument and operate Government rail vehicle and track testing equipment (such as the Track Geometry Measurement and Data Acquisition Cars) in conducting safety research testing.	220 (220)	175 (175)	-45 (-45)
(b) Provide for the maintenance, including calibration and storage, of Government-owned research equipment and test cars.	200 (200)	200 (200)	... (...)
(c) Complete the evaluation, using FAST at the TTC, of the effectiveness of a new rail flaw detection device to find flaws before they cause an accident.	185 (295)	... (...)	-185 (-295)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(d) Evaluate proposed longitudinal rail force measuring/detecting systems as a way of determining incipient track buckling conditions.	$49 (49)	$50 (50)	+$1 (+1)
(e) Conduct analytical evaluations and tests of advanced technology inspection means, provide test planning and data analysis technical support, and provide accident evaluation technical support.	90 (230)	140 (140)	+50 (-90)
(3) PERFORMANCE STANDARDS	1,355 (2,135)	1,605 (1,605)	+250 (-530)
(a) Complete the development of performance-based safety standards for rail integrity which, if complied with, will reduce the accidents attributed to rail breaks resulting from fatigue and defects. Provide analytical support for the demonstration tests of performance standards which were completed in FY 1986 in the areas of rail restraint (detect the potential for the occurrence of dynamic gage widening), track panel restraint (protect against track buckling of welded rail); and track-vehicle interaction (detect the potential for rock and roll, wheel climb, vehicle-track dynamics and track geometry caused derailments).	1,355 (2,135)	1,605 (1,605)	+250 (-530)
TOTAL	3,299 (4,852)	2,900 (2,900)	-399 (-1,952)

General Justification

(1) Track and Components

Although in recent years there has been a continuing trend in the decline in the rate of railroad accidents, there is still a need to continue the structured track research program. For example, in spite of significant maintenance and rehabilitation progress by the railroads, accidents caused by track conditions predominate and the failure of track components result in derailments having severe consequences. Many new techniques and philosophies concerning track maintenance have been developed. Faster trains, heavier cars, new car designs, different materials, and more advanced components continue to be introduced into the railroad operating environment. The newly developed track safety performance standards need to be demonstrated under the variety of operating conditions that are representative of revenue service. This research program utilizes the controlled environment at FAST and other test tracks at the Transportation Test Center to secure accurate and time-accelerated results.

The decrease in requested FY 1987 funding reflects the effect of the reduction in detailed research tests that supported development of the performance standards completed during FY 1986 and the need to produce detailed test data for and demonstration of the proposed Track Buckling Performance Standard.

(2) Inspection-Detection

The number and frequency of track-related accidents can be significantly reduced if continuing efforts to improve rail flaw and other track structure failure detection techniques and related inspection equipment are successful. These new techniques and equipment will provide accurate and reliable warnings well in advance of actual structural failure and a way to predict incipient buckling conditions.

In FY 1987, test support is provided for vehicle-track interaction testing to determine safe operating limits for various track conditions. In addition, quick response technical support is provided for accident evaluations.

The project that provides for advanced inspection technology technical support, is continued in order to obtain the necessary expertise to conduct an independent evaluation of the safety effectiveness of new inspection devices. This work includes evaluating an inspection device for detecting when incipient track buckling conditions exist.

The decrease in the FY 1987 funding level reflects the effect of the elimination of funding for the tests of the advanced rail flaw detection device which was funded in FY 1986, but the continued need for evaluating the track buckling detection device, and a reduction in the amount of accident evaluation technical support.

(3) Performance Standards

In a planned transition from past practices of specifying safety limits through rigid track design and configuration criteria, a major effort has been underway to redefine these safety requirements and specifications in more practical terms. This will result in performance-based standards which encourage use of safer and more durable systems. While maintaining an independent viewpoint, this program seeks to work closely with standing industry "recommended practice" committees to obtain industry acceptance of more definitive and, in many cases, precedent setting performance-based standards.

In FY 1986, three of the four track performance areas being studied under this program were essentially completed, with definitive standards developed for rail restraint, track-vehicle interaction and track buckling. In FY 1987, the remaining area of rail integrity will be completed. This performance standard will specify the inspection requirements for finding rail flaws and fatigue cracks before they result in accidents. This activity will conduct engineering analyses using data from a series of experiments on test tracks and in the laboratory to establish the time to "grow" defects to their critical size, the inspection frequencies, inspection strategies, and the required remedial actions.

The decrease in funding in FY 1987 reflects the completion of three of the performance standards in FY 1986 and the scheduled completion of the remaining standard in FY 1987.

c. Track-Train Safety Testing Program

Background

Unlike the two preceding programs which focus essentially on the rail vehicles or the track structure on which they travel, the Track-Train Safety Testing Program attempts to understand the system operating as a whole. The track-train category of accidents is caused by uncomplementary vehicle and track interactive responses to each other under certain speed or operating regimes. This adverse interaction is often presumed to be traceable to track profile or alignment irregularities (geometry), to undesirable train actions, or to certain car characteristics. Violent derailments attributed to adverse track-train relationships have occurred in the past and are continuing.

This program is conducted with the cooperation and significant cost-sharing from private sector organizations including the Association of American Railroads, rail vehicle suppliers, locomotive builders, supplier organizations, and several individual railroads. During FY 1987, these organizations are expected to contribute about 63 percent of the total research cost.

Program Structure and Objectives

The Track-Train Safety Testing Program is structured to proceed in parallel with the Track Safety Program. Many of the same skills and resources are equally applicable to each program and have been integrated to ensure efficient, nonduplicative use of resources. This program's elements and their related research objectives are necessary for the planning, evaluation, and implementation of rulemaking activities and safety improvements as follows:

(1) Track-Train Interaction - Provides for the collection of historical information, analysis, and production of factual test data that accurately portrays the effect of the dynamic interaction that occurs between a train, its locomotives and cars, and the track structure on which they ride.

(2) Safety Testing - Provides for rail systems testing under controlled environments through: (a) time-accelerated degradation rate testing of track and its components, (b) measurement of the influence and effect of track degradation upon vehicle performance and safe operating limits, and (c) measurement of the effect of train operation on the track structure performance and safety limits.

Resources

The following project table compares the Fiscal Year 1986 Track-Train Safety Testing Program with that requested for Fiscal Year 1987. The General Justification for these program elements follow the table.

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(1) TRACK-TRAIN INTERACTION	$766 (1,545)	$900 (900)	+$134 (-645)
(a) Continue to conduct specific safety projects in the joint industry/Government cooperative Track Train Dynamics Program to study technical issues involving railroad rolling stock, track, and train operations.	350 (350)	300 (300)	-50 (-50)
(b) Continue to evaluate track degradation characteristics and rate, as a function of tonnage and initial track quality using the FAST at TTC and revenue service sites to develop safety inspection intervals, time available for maintenance response, and required interim speed limits.	180 (509)	430 (430)	+250 (-79)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
(c) Plan and conduct safety evaluation tests on new cars or train designs, analyze the data, and prepare an independent safety assessment. The tests will use selected test tracks to evaluate the dynamic response characteristics of these cars to track geometry inputs.	$86 (536)	... (...)	-$86 (-536)
(d) Update previous statistical analyses of rail cars having high derailment rates, assess the characteristics which cause the undesired behavior and define test requirements to evaluate the safety issues.	150 (150)	$170 (170)	+20 (+20)
(2) SAFETY TESTING	2,040 (2,800)	1,900 (1,900)	-140 (-900)
(a) Operate and maintain FAST and conduct a wide variety of track and vehicle system and component safety tests by operating a dedicated train under controlled conditions and in an accelerated service environment.	2,040 (2,800)	1,900 (1,900)	-140 (-900)
TOTALS	2,806 (4,345)	2,800 (2,800)	-6 (-1,545)

General Justification

(1) Track-Train Interaction

Most accidents not involving human error or vehicle or track component failure are caused by undesirable track-train interactions. A major cooperative industry/Government program known as Track Train Dynamics was initiated early in the 1970's in order to reduce this kind of derailment. As new vehicle and track designs continue to be proposed, potential safety reactions associated with train handling need to be understood before widespread use of newly built cars or premature track failures begin to occur.

In FY 1987, the funding changes reflect continued emphasis on understanding the track geometry degradation rates to set inspection requirements for the additional new performance standards being completed and the need to conduct more detailed track tests of new proposed rail cars and trains under the Track-Train Dynamics Program. The project which updates a previous study on identifying derailment prone cars from accident statistics is continued. Periodically, the additional accident statistics data are reviewed to identify any new trends. This is particularly the case as experience grows on the new cars being introduced into revenue service. Evaluations are made to assess probable accident cause. It is important that this safety assessment be done independently of the industry. However, industry data will be used in the study in addition to FRA safety data.

(2) Safety Testing

In order to evaluate train, vehicle, and track interactions and the effect of one upon the other, it is necessary to conduct testing in a replicated controlled environment not otherwise attainable in normal revenue operations. For this reason, FAST at the TTC is operated as a test facility. It provides the Government, the railroads, and their suppliers with a way to detect potential problems or deficiencies and identify corrective action before elements of the national rail system unexpectedly reach deteriorated safety stages. The intensified operation of a freight train over the dedicated oval test track permits many experiments and tests to be conducted concurrently in as near a real-world environment as is possible so that short and long-term cause and effect may be clearly identified in a compressed time period.

In FY 1987, funding is requested to continue the Government capability to rapidly evaluate safety consequences through the use of FAST. The railroads and their suppliers are expected to continue to implement plans to increase their present level of support thereby offsetting some of the cost of operating the train. This is represented by some of the significant reduction in the FY 1987 funding request for this item since the operations and maintenance of FAST is funded by charging user fees. In addition, some reduction in needed funding is expected as a result of using the new High Tonnage Loop which allows obtaining the same data for less cost.

d. Administration

Mission

The Director and staff of the Office of Research and Development are responsible for the management and execution of all aspects of railroad safety research and intercity rail transportation in order to improve safety and stimulate beneficial advances in railroad technology.

Resources

The following table compares the Fiscal Year 1986 administration budget with that requested for Fiscal Year 1987:

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Administration............	$1,225	$1,281	+$56
Permanent Positions.......	15	15	...

Justification

This program area includes the salaries and related expenses to provide for technical and management expertise required to administer the three preceding research and development programs. The $56 thousand increase is for an anticipated increase in the cost of telecommunications and office automation in FY 1987.

[CONRAIL LABOR PROTECTION]

[Such sums as may be necessary shall be made available for necessary expenses of administration of section 701 of the Regional Rail Reorganization Act of 1973 by the Railroad Retirement Board.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
CONRAIL LABOR PROTECTION

Program and Financing (in thousands of dollars)

Identification code 69-0707-0-1-603	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
00.01 Conrail labor protection (sec. 701)....................	10,335	2,100	...
00.02 Conrail title V labor benefits....................	...	500	...
00.03 Milwaukee Railroad labor assistance..................	...	49	...
10.00 Total obligations (object class 41.0)...............	10,335	2,649	...
Financing:			
21.40 Unobligated balance available, start of year...............	-31,049	-35,714	-4,565
22.40 Unobligated balance transferred, net........................	...	28,500 1/	4,565 2/
24.40 Unobligated balance available, end of year.................	35,714	4,565	...
40.00 Budget authority (appropriation).........	15,000	...	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net....	10,335	2,649	...
72.40 Obligated balance, start of year.....................	23,302	23,237	...
74.40 Obligated balance, end of year	-23,237	...	...
90.00 Outlays....................	10,400	25,886	...

1/ Transfer of $23,000,000 from Conrail Labor Protection (Sec. 701) and $5,500,000 from Milwaukee Labor Protection to Amtrak, operating grants programs.

2/ Transferred to the Office of the Administrator, Washington Union Station rent and maintenance.

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CONRAIL LABOR PROTECTION

PROGRAM AND PERFORMANCE

Conrail Labor Protection - Section 701. --$165 million has been appropriated under Section 701 of the Regional Rail Reorganization Act of 1973, as amended, to provide protection to Conrail employees deprived of employment because of actions taken under the 3R Act as amended by the Northeast Rail Service Act of 1981. In 1986, $28.5 million is transferred to Grants to the National Railroad Passenger Corporation. The remaining unobligated balances are to be transferred to the Office of the Administrator appropriation to offset 1987 operating costs of funding Union Station. No funds are requested in 1987 because it is expected that Conrail will be returned to the private sector by then and labor protection will be a corporate, rather than Federal, responsibility.

Conrail Title V labor benefits. --The Northeast Rail Service Act of 1981 terminated labor protection benefits under Title V of the Regional Rail Reorganization Act and authorized a new Conrail labor protection program, on October 1, 1981, the effective date of the repeal of Title V.

Milwaukee Railroad labor assistance. --This program provided funds for Milwaukee Railroad employee benefits under Section 509 of the Regional Rail Reorganization Act, as amended.

COMMUTER RAIL SERVICE

[CONRAIL COMMUTER TRANSITION ASSISTANCE]

[(TRANSFER OF FUNDS)]

[For necessary capital expenses of Conrail commuter transition assistance, not otherwise provided for, $5,000,000 to be derived from unobligated balances of "Research, training, and human resources" and to remain available until expended.]

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STANDARD FORM 300
July 1964, Bureau of the Budget
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
COMMUTER RAIL SERVICE

Program and Financing (in thousands of dollars)

Identification code 69-0747-0-1-401	1985 actual	1986 estimate	1987 estimate
Program by activities:			
00.01 Commuter rail service	92	...	...
00.02 Conrail commuter transition assistance	...	5,000	...
10.00 Total obligations (object class 41.0)	92	5,000	...
Financing:			
21.40 Unobligated balance available, start of year	-92	...	...
22.40 Unobligated balance transferred, net	...	-5,000 1/	...
39.00 Budget authority	...	...	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net	92	5,000	...
72.40 Obligated balance, start of year	...	92	...
74.40 Obligated balance, end of year	-92	...	...
90.00 Outlays	...	5,092	...
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1/ Reflects unobligated balance transferred from UMTA's "Research, training, and human resources" appropriation.

COMMUTER RAIL SERVICE

PROGRAM AND PERFORMANCE

These funds helped to defray the one-time only startup costs of commuter service and other transition expenses connected with the transfer of rail commuter services from Conrail to other operators. In 1986, $5.0 million was transferred from UMTA-Rail modernization program to fund Conrail Commuter Transition Assistance. No additional funds are requested in 1987.

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Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
SETTLEMENTS OF RAILROAD LITIGATION

Program and Financing (in thousands of dollars)

Identification code 69-0708-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 43.0)....................	493	...	...
Financing:			
39.00 Budget authority............	493	...	...
Budget authority:			
40.00 Appropriation..................	4,284	...	...
40.47 Portion applied to debt reduction....................	-4,223	...	...
43.00 Appropriation (adjusted).....	61	...	...
47.10 Authority to borrow (87 Stat. 1001)...........	432	...	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	493	...	...
90.00 Outlays....................	493	...	...
([illegible])	([illegible])	([illegible])	([illegible])

SETTLEMENTS OF RAILROAD LITIGATION

PROGRAM AND PERFORMANCE

In 1981, the Government began valuation settlements with railroads for properties transferred to Conrail in 1976. Total settlements made through October 1985, amount to $2.8 billion. The obligations shown in 1985 reflect the financing of interest payments which DOT owed to Treasury on previous borrowings.

[NORTHEAST CORRIDOR IMPROVEMENT PROGRAM]

[For necessary expenses related to Northeast Corridor improvements authorized by title VII of the Railroad Revitalization and Regulatory Reform Act of 1976, as amended (45 U.S.C. 851 et seq.), $12,500,000 to remain available until expended: Provided, That, notwithstanding any other provision of law, the provisions of Public Law 85-804 shall apply to the Northeast Corridor Improvement Program: Provided further, That the Secretary may waive the provisions of 23 U.S.C. 322 (c) and (d) if such action would serve a public purpose: Provided further, That all public at grade-level crossings remaining along the Northeast Corridor upon completion of the project shall be equipped with protective devices including gates and lights.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

Program and Financing (in thousands of dollars)

Identification code 69-0123-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Direct Program:			
00.01 Construction..................	220,904	19,705	...
00.02 System engineering/program management and administration	2,565	1,121	...
00.03 Public grade crossing elimination.................	830	3,106	...
00.91 Total direct program..........	224,300	23,932	...
01.01 Reimbursable Program..........	7,481	8,400	900
10.00 Total obligations.............	231,781	32,332	900
Financing:			
14.00 Offsetting collections from: Non-Federal sources...........	-6,363	-8,400	-900
17.00 Recovery of prior year obligations..................	-153,225	...	...
21.40 Unobligated balance available, start of year................	-56,025	-11,432	...
24.40 Unobligated balance available, end of year.................	11,432	...	...
40.00 Budget authority (appropriation)..........	27,600	12,500	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	225,418	23,932	...
72.40 Obligated balance, start of year......................	382,793	301,733	133,515
74.40 Obligated balance, end of - year........................	-301,733	-133,515	-25,337
78.00 Adjustments in unexpired accounts.....................	-153,225	...	...
90.00 Outlays..................	153,254	192,150	108,178
(Memo cost: 21.0)	(Memo cost: 6)	(Memo cost: 6)	(Memo cost: 4.0)

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested:			
Budget authority	27,600	12,500	...
Outlays	153,254	192,150	108,178
Reduction pursuant to P.L. 99-177:			
Budget authority	...	- 538	...
Outlays	...	- 30	- 145
Rescission proposal:			
Budget authority	...	-11,962	...
Outlays	...	- 720	-3,230
Total:			
Budget authority	27,600	...	...
Outlays	153,254	191,400	104,803

NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

PROGRAM AND PERFORMANCE

Construction. --No funds are requested for this program in 1987. At the end of 1985, responsibility for any additional construction on the Northeast Corridor was transferred to the National Railroad Passenger Corporation (Amtrak). However, outlays will continue from prior year obligations.

Reimbursable Program. --Collections are made from Federal and non-Federal agencies for cost-shared improvement projects, such as stations.

System Engineering/Program Management and Administration. --In 1986 the primary effort will be to complete and audit a number of projects being closed out. At the end of 1985 all Northeast Corridor Improvement Program work scope and responsibility was transferred to Amtrak.

Public Grade Crossing Elimination. --No funds are requested for this program in 1987; however, obligations and outlays will continue on projects which were included in prior year appropriations.

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-105

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0123-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
FEDERAL RAILROAD ADMINISTRATION			
Personnel compensation:			
11.1 Full-time permanent positions...	698	...	...
11.3 Other than full-time permanent..	59	...	...
11.5 Other personnel compensation	2	...	...
~~11.8 Special personal services payments~~			
11.9 Total personnel compensation	759	...	...
Personnel benefits:			
12.1 Civilian	76	...	...
~~13.0 Benefits for former personnel~~			
21.0 Travel and transportation of persons	19	...	...
22.0 Transportation of things			
23.1 Standard level user charges.....	172	...	...
23.3 Comm. util. & misc. charges.....	52	...	...
24.0 Printing and reproduction	50	...	...
25.0 Other services	221,713	19,177	...
26.0 Supplies and materials	4	...	...
31.0 Equipment	6	...	...
~~32.0 Lands and structures~~			
~~33.0 Investments and loans~~			
~~41.0 Grants, subsidies, and contributions~~			
~~42.0 Insurance claims and indemnities~~			
~~43.0 Interest and dividends~~			
~~44.0 Refunds~~			
99.0 Subtotal, direct obligations, Federal Railroad Administration	222,851	19,177	...
99.0 Reimbursable obligations........	7,481	8,400	900

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-105

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0123-0-1-401	19 85 actual	19 86	19 87
ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION			
Personnel compensation:			
11.1 Full-time permanent positions...	486	...	...
11.3 Other than full-time permanent..	9	...	...
11.5 Other personnel compensation	7	...	...
~~11.8 Special personal services payments~~			
11.9 Total personnel compensation	502	...	...
Personnel benefits:			
12.1 Civilian	53	...	...
~~13.0 Benefits for former personnel~~			
21.0 Travel and transportation of persons	53	...	...
~~22.0 Transportation of things~~			
23.3 Comm. utili. & misc. charges....	5	...	...
~~24.0 Printing and reproduction~~			
25.0 Other services	836	4,755	...
~~26.0 Supplies and materials~~			
~~31.0 Equipment~~			
~~32.0 Lands and structures~~			
~~33.0 Investments and loans~~			
~~41.0 Grants, subsidies, and contributions~~			
~~42.0 Insurance claims and indemnities~~			
~~43.0 Interest and dividends~~			
~~44.0 Refunds~~			
99.0 Subtotal, obligations, alloc. to Federal Highway Administration.	1,449	4,755	...
99.9 Total obligations	231,781	32,332	900

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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

Personnel Summary

Identification code 69-0123-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
FEDERAL RAILROAD ADMINISTRATION			
Total number of full-time permanent positions........................	7	...	...
Total compensable work-years:			
Full-time equivalent employment.	15	...	...
Average ES salary...............	...	...	...
Average GS grade................	12.3	...	...
Average GS salary...............	44,832	...	...
ALLOCATION TO FEDERAL HIGHWAY ADMINISTRATION			
Total number of full-time permanent positions........................	7	...	...
Total compensable work-years:			
Full-time equivalent employment.	11	...	...
Average ES salary...............	68,700	...	...
Average GS grade................	11.5	...	...
Average GS salary...............	43,541	...	...
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July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM
REDUCTION PURSUANT TO PUBLIC LAW 99-177
Program and Financing (in thousands of dollars)

Identification code 69-0123-6-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 25.0)........	...	-538	...
Financing:			
40.00 Budget authority (appropriation)...........	...	-538	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	...	-538	...
72.40 Obligated balance, start of year	...	...	-508
74.40 Obligated balance, end of year	...	508	363
90.00 Outlays..................	...	-30	-145
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NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

[GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION]

[(INCLUDING TRANSFERS OF FUNDS)]

[To enable the Secretary of Transportation to make grants to the National Railroad Passenger Corporation for operating losses incurred by the Corporation, capital improvements, and labor protection costs authorized by 45 U.S.C. 565, to remain available until expended, $616,000,000, of which $23,000,000 shall be derived from unobligated balances of "Conrail labor protection" and $5,500,000 shall be derived from unobligated balances of "Rail labor assistance" as of September 30, 1985: Provided, That none of the funds herein appropriated shall be used for lease or purchase of passenger motor vehicles or for the hire of vehicle operators for any officer or employee, other than the president of the Corporation, excluding the lease of passenger motor vehicles for those officers or employees while in official travel status: Provide further, That the Secretary shall make no commitments to guarantee new loans or loans for new purposes under 45 U.S.C. 602 in fiscal year 1986: Provided further, That the incurring of any obligation or commitment by the Corporation for the purchase of capital improvements prohibited by this Act or not expressly provided for in an appropriation Act shall be deemed a violation of 31 U.S.C. 1341: Provided further, That no funds are required to be expended or reserved for expenditure pursuant to 45 U.S.C. 601 (e): Provided further, That none of the funds in this or any other Act shall be made available to finance the rehabilitation and other improvements (including upgrading track and the signal system, ensuring safety at public and private highway and pedestrian crossings by improving signals or eliminating such crossings, and the improvement of operational portions of stations related to intercity rail passenger service) on the main line track between Atlantic City, New Jersey, and the main line of the Northeast Corridor, unless the Secretary of Transportation certifies that not less than 40 per centum of the costs of such improvements shall be derived from non-Federal sources: Provided further, That, notwithstanding any other provision of law, the National Railroad Passenger Corporation shall not operate rail passenger service between Atlantic City, New Jersey, and the Northeast Corridor main line unless the Corporation's Board of Directors determines that revenues from such service have covered or exceeded 80 per centum of the short term avoidable costs of operating such service in the first year of operation and 100 per centum of the short term avoidable operating costs for each year thereafter: Provided further, That none of the funds provided in this or any other Act shall be made available to finance the acquisition and rehabilitation of a line, and construction necessary to facilitate improved rail passenger service between Spuyten Duyvil, New York and the main line of the Northeast Corridor unless the Secretary of Transportation certifies that not less than 40 per centum of the costs of such improvements shall be derived from non-Amtrak sources.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

Program and Financing (in thousands of dollars)

Identification code 69-0704-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
00.01 Operating grants..............	639,000	616,000	...
00.02 Labor protection and capital grants......................	105,401	107,808	...
10.00 Total obligations (object class 41.0).......	744,401	723,808	...
Financing:			
21.40 Unobligated balance available, start of year................	-168,209	-107,808	...
22.40 Unobligated balance transferred, net 1/.........	...	- 28,500	...
24.40 Unobligated balance available, end of year..................	107,808	...	...
40.00 Budget authority (appropriation)............	684,000	587,500	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	744,401	723,808	...
72.40 Obligated balance, start of year.........................	39,695	20,287	47,695
74.40 Obligated balance, end of year	-20,287	-47,695	...
90.00 Outlays....................	763,809	696,400	47,695

1/ Transfer from Conrail Labor Protection (Sec. 701) $23,000,000 and Rail Labor Assistance $5,500,000.

GPO 1964 O-737-069

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DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested:			
Budget authority....................	684,000	587,500	...
Outlays.............................	763,809	696,400	47,695
Reduction pursuant to P.L. 99-177:			
Budget authority....................	...	-25,263	...
Outlays.............................	...	-25,263	...
Total:			
Budget authority....................	684,000	562,237	...
Outlays.............................	763,809	671,137	47,695

GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

PROGRAM AND PERFORMANCE

The National Railroad Passenger Corporation (Amtrak) is a private corporation. Federal assistance is provided through the Department of Transportation in the following manner:

Operating grants and State assisted routes. --No funds are requested in 1987, because Amtrak's performance to date has failed to justify continued massive federal subsidies of interstate, commuter, and state-assisted rail passenger service.

Labor protection and capital grants. --No funds are requested in 1987. Outlays are anticipated from prior year obligations. Labor protection payments, insofar as they exist, are a responsibility of the corporation.

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STANDARD FORM 300
July 1964, Bureau of the Budget Circular No. A-11 Revised
300-106

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-0704-6-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 41.0).......	...	-25,263	...
Financing:			
40.00 Budget authority (appropriation)............	...	-25,263	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	...	-25,263	...
90.00 Outlays....................	...	-25,263	...
(Mono cast 21.5)	(Mono cast 5)	(Mono cast 5)	(Mono cast 4.9)

GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

GRANTS TO THE NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

NARRATIVE JUSTIFICATION

(Dollar amounts in thousands)

	Adjusted FY 1986	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority	$ 562,237 1/	$ ...	-$ 562,237
Program Level	$(590,737)	$ (...)	-$(590,737)

General Statement

The Federal role in this program is to provide a means for channeling appropriated operating, capital and labor protection grants to the National Railroad Passenger Corporation (Amtrak). The authority to fulfill this role is Section 601 of the Rail Passenger Service Act, as amended. The Administration proposes to discontinue all such grants beginning in FY 1987.

SUMMARY TABLE

(Dollar amounts in thousands)

	Adjusted FY 1986	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority by Activity			
1. Operating grants and State assisted routes.............	$ 562,237 1/	$ ...	-$ 562,237
2. Labor Protection and capital grants.	...	...	...
Total	$ 562,237 1/	$ ...	-$ 562,237

1/ Excludes $28,500,000 of unobligated balances transferred ($23,000,000 from Conrail labor protection and $5,500,000 from Rail labor assistance).

Detailed Justification

1. Operating Grants and State Assisted Routes..........$-0-

No new budget authority is being requested for Fiscal Year 1987.

Amtrak has cost the taxpayers $9.5 billion, excluding the investment in the NECIP, since its inception. It could cost another $6-8 billion over the next ten years. The benefits of Amtrak service to the general taxpayers are not sufficient to warrant such expenditures in the face of a serious Federal deficit.

2. Labor Protection and Capital Grants................$-0-

No new budget authority is being requested for Fiscal Year 1987.

If subsidy termination results in an Amtrak bankruptcy, labor protection costs would be funded out of the liquidation of corporate assets. Labor protection would be a liability of the bankrupt estate and not the Federal Government.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Program and Financing (in thousands of dollars)

Identification code 69-4400-0-3-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Operating and other expenses:			
Rail line operation program:			
00.01 Maintenance of way and structures....................	4,287	...	...
00.02 Maintenance of equipment......	3,842	...	...
00.03 Traffic........................	810	...	...
00.04 Transportation service........	7,173	...	...
00.05 Incidental operations.........	770	...	...
00.06 General and administrative expense......................	7,963	...	...
00.10 Other programs: Other non-operating expense............	79	...	...
00.22 Other expenses: Undistributed expenses......	1,794	...	...
00.91 Total operating and other expenses......................	26,718	...	...
Extraordinary expenses:			
01.01 Extraordinary expense transfer to State of Alaska.......................	137	...	...
01.92 Total operating and extraordinary expense........	26,855	...	...
10.00 Total obligations............	26,855	...	...
Financing:			
14.00 Offsetting collections from: Non-Federal sources...........	-17,907	...	...
21.98 Unobligated balance available, start of year: Fund balance..	-8,948	...	...
39.00 Budget authority................	...	...	...

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Program and Financing (in thousands of dollars)

Identification code 69-4400-0-3-401	19 85 actual	19 86 estimate	19 87 estimate
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	8,948	...	...
72.10 Receivables in excess of obligations, start of year....	-6,468	...	...
72.98 Obligated balance, start of year: Fund balance..........	...	4,389	...
74.98 Obligated balance, end of year: Fund balance..................	-4,389	...	...
90.00 Outlays.................	-1,909	4,389	...

(Mono cast 21.5) (Mono cast 5) (Mono cast 5) (Mono cast 4.9)

ALASKA RAILROAD REVOLVING FUND

PROGRAM AND PERFORMANCE

The Alaska Railroad was operated by the Federal Government under the Act of March 12, 1914 (38 Stat. 305).

The Alaska Transfer Act of 1982 authorized transfer of the Alaska Railroad to the State of Alaska. The transfer was accomplished January 5, 1985.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Revenue and Expenses (in thousands of dollars)

Identification code 69-4400-0-3-401	19 85 actual	19 86 estimate	19 87 estimate
Rail line operation program:			
Revenue: Ordinary............	16,691	...	...
Expense: Ordinary............	-24,845	...	...
Net income, rail line operation.................	-8,154	...	...
Other programs:			
Non-operating revenue.........	1,216	...	...
Expense: Ordinary............	-79	...	...
Net income, other programs..	1,137	...	...
Non-operating income or loss:			
Undistributed costs...........	-1,794	...	...
Net non-operating income or loss......................	-1,794	...	...
Net income or loss for the year......................	-8,811	...	...
(Measure: 21.8)	(Measure: 8)	(Measure: 8)	(Measure: 4.8)

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Financial Condition (in thousands of dollars)

	1984 actual	1985 actual	1986 est.	1987 est.
Assets:				
Selected assets:				
Fund balance with Treasury.....	3,516	4,389	...	...
Accounts receivable (net)......	16,477	1,687	...	...
Advances made..................	43	...	...	...
Inventories....................	9,864	...	...	...
Real property and equipment (net)........................	148,509	...	...	...
Other assets (net).............	8,099	...	...	...
Total assets...................	186,508	6,076	...	...
Liabilities:				
Selected liabilities:				
Accounts payable and funded accrued liabilities..........	6,158	3,842	...	...
Advances received..............	2,080	...	...	...
Total liabilities..............	8,238	3,842	...	...
Government equity:				
Selected equities:				
Unexpended budget authority:				
Unobligated balance..........	8,948	...	...	...
Undelivered orders...........	2,850	2,234	...	...
Invested capital...............	166,472	...	...	...
Total Government equity.......	178,270	2,234	...	...

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Financial Condition (in thousands of dollars) (continued)

	1985 actual	1986 est.	1987 est.
Analysis of changes in Government Equity:			
Paid-in capital:			
Opening balance....................	200,591	...	...
Transactions:			
Donated assets, net..............	-169,019	...	...
Closing balance...................	31,572	...	...
Retained income:			
Opening balance...................	-22,321	...	...
Net operating income or loss.....	-7,017	...	...
Closing balance...................	-29,338	...	...
Total Government equity (end of year)...................	2,234 1/	...	...

1/ The total Government equity as agreed to in the transfer of the Alaska Railroad to the State of Alaska, consists of receivables and payables assumed on the date of transfer.

STANDARD FORM 304
May 1969, Bureau of the Budget
Circular No. A-11, Revised
304-105

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-4400-0-3-401	19 85 actual	19 86 estimate	19 87 estimate
11.1 Full-time permanent.............	9,440	...	...
11.3 Other than full-time permanent..	2,173	...	...
11.5 Other personnel compensation	712	...	...
~~11.8 Special personal services payments~~			
11.9 Total personnel compensation	12,325	...	...
Personnel benefits:			
12.1 Civilian	1,950	...	...
13.0 Benefits for former personnel	5,000	...	...
21.0 Travel and transportation of persons	188	...	...
22.0 Transportation of things	207	...	...
23.3 Comm., utili. & misc. charges...	1,190	...	...
~~24.0 Printing and reproduction~~			
25.0 Other services	2,050	...	...
26.0 Supplies and materials	3,639	...	...
31.0 Equipment	208	...	...
~~32.0 Lands and structures~~			
~~33.0 Investments and loans~~			
~~41.0 Grants, subsidies, and contributions~~			
42.0 Insurance claims and indemnities	98	...	...
~~43.0 Interest and dividends~~			
~~44.0 Refunds~~			
99.9 Total obligations...............	26,855	...	...

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
ALASKA RAILROAD REVOLVING FUND

Personnel Summary

Identification code 69-4400-0-3-401	19 85 actual	19 86 estimate	19 87 estimate
Total number of full-time permanent positions............................	...	...	...
Total compensable work-years:			
Full-time equivalent employment........................	148	...	...
Full-time equivalent of overtime and holiday hours.......	6	...	...
Average ES salary.....................	70,000	...	...
Average salary of ungraded positions	44,500	...	...
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RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

The [total commitments to guarantee new loans pursuant to sections 511 through 513 of the Railroad Revitalization and Regulatory Reform Act of 1976 (Public Law 94-210), as amended, shall not exceed $4,000,000 of contingent liabilities for loan principal during fiscal year 1986: Provided, That the] Secretary of Transportation is authorized to issue to the Secretary of the Treasury notes or other obligations pursuant to section 512 of the Railroad Revitalization and Regulatory Reform Act of 1976 (Public Law 94-210), as amended, in such amounts and at such times as may be necessary to pay any amounts required pursuant to the guarantee of the principal amount of obligations under sections 511 through 513 of such Act, such authority to exist as long as any such guaranteed obligation is outstanding [: Provided further, That the aggregate amount of such notes or other obligations during fiscal year 1986 shall not exceed $100,000,000]. (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

[REDEEMABLE PREFERENCE SHARES]

[Notwithstanding any other provision of law, the Secretary of Transportation is hereby authorized to expend proceeds from the sale of fund anticipation notes to the Secretary of the Treasury and any other moneys deposited in the Railroad Rehabilitation and Improvement Fund pursuant to sections 502, 505-507, and 509 of the Railroad Revitalization and Regulatory Reform Act of 1976 (Public Law 94-210), as amended, and section 803 of Public Law 95-620, for uses authorized for the Fund, in amounts not to exceed $33,500,000.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11 Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

Program and Financing (in thousands of dollars)

Identification code 59-4411-0-3-401	1985 actual	1986 estimate	1987 estimate
Program by activities:			
00.01 Redeemable preference shares....	16,770	33,500	...
00.02 Loan repayments.................	...	291	439
10.00 Total obligations (object class 33.0)..................	16,770	33,791	439
Financing:			
Offsetting collections from:			
11.00 Federal funds..................	-99	-90	-90
14.00 Non-Federal sources............	-325	-601	-749
Unobligated balance available, start of year:			
21.47 Authority to borrow............	-23,431	...	...
21.98 U.S. securities (par)..........	-894	-1,323	-1,726
21.98 Fund balance...................	-8	-3	...
22.40 Unobligated balance transferred, net.........................	5,000	291	439
Unobligated balance available, end of year:			
24.98 U.S. securities (par)..........	1,323	1,726	2,126
24.98 Fund balance...................	3	...	...
25.00 Unobligated balance lapsing.....	1,660	...	...
31.00 Redemption of debt..............	...	-291	-439
40.00 Budget authority (appropriation)..........	...	33,500	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	16,346	33,100	-400
72.47 Obligated balance, start of year:........................	35,919	41,548	42,973
74.47 Obligated balance, end of year	-41,548	-42,973	-38,298
77.00 Adjustments in expired accounts....................	-4,270	...	...
90.00 Outlays.................	6,448	31,675	4,275
(Mono cast 21.5)	(Mono cast 5)	(Mono cast 5)	(Mono cast 4.9)

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested:			
Budget authority....................	...	33,500	...
Outlays............................	6,448	31,675	4,275
Reduction pursuant to P.L. 99-177:			
Budget authority....................	...	-1,441	...
Outlays............................	...	- 72	- 72
Rescission proposal:			
Budget authority....................	...	-32,059	...
Outlays............................	...	- 1,603	-1,603
Total:			
Budget authority....................	...	...	...
Outlays............................	6,448	30,000	2,600

Type size
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Case 150
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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

Status of Direct Loans (in thousands of dollars)

Identification code 69-4411-0-3-401	1985 actual	1986 estimate	1987 estimate
Position with respect to appropriations act limitation on obligations:			
1111 Limitation on direct loans to the public..................	...	...	...
Obligations exempt from limitation:			
1131 Direct loans to the public.....	16,770	33,500	...
1150 Total direct loan obligations..	16,770	33,500	...
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year.....	558,217	566,361	579,945
1231 Disbursements: Direct loan disbursements................	8,900	13,875	8,095
1251 Repayments: Repayments and prepayments..................	...	-291	-439
1262 Adjustments: Write-offs for default......................	-4,270	...	...
1264 Adjustments: other adjustments, net.............	3,514	...	...
1290 Outstanding, end of year.......	566,361	579,945	587,601

NOTE: FRA's guarantee of direct loans made by the FFB previously shown in this account are now reflected in the Railroad Rehabilitation and Improvement Financing Fund, FFB account.

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RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

PROGRAM AND PERFORMANCE

No new commitments for the redeemable preference share and loan guarantee programs are being proposed after 1986. 1986 activity primarily will finance the highest priority needs of secondary or regionally important lines which are essential to the continuation of rail service and which feed the national rail system.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-10

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-4411-6-3-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 33.0).........	...	-1,441	...
Financing:			
40.00 Budget authority (appropriation).............	...	-1,441	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	...	-1,441	...
72.47 Obligated balance, start of year.........................	...	...	-1,369
74.47 Obligated balance, end of year.........................	...	1,369	1,297
90.00 Outlays..................	...	-72	-72
(Mono cast 21.5)	(Mono cast 5)	(Mono cast 5)	(Mono cast 4.5)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11 Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
Reduction Pursuant to Public Law 99-177
Status of Direct Loans (in thousands of dollars)

Identification code 69-4411-6-3-401	19 85 actual	19 86 estimate	19 87 estimate
Position with respect to appropriations act limitation on obligations:			
1111 Limitation on direct loans to the public..................	...	...	...
Obligations exempt from limitation:			
1131 Direct loans to the public.....	...	-1,441	...
1150 Total direct loan obligations..	...	-1,441	...
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year.....	...	...	-72
1231 Disbursements: Direct loan disbursements................	...	-72	-72
1290 Outstanding, end of year.......	...	-72	-144
(Mono cast: 21.5)	(Mono cast: 8)	(Mono cast: 5)	(Mono cast: 4.9)

RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

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STANDARD FORM 300
July 1964, Bureau of the Budget
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300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

Program and Financing (in thousands of dollars)

Identification code 69-7012-0-4-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Direct loans (total obligations) (object class 33.0)......................	4,117	1,600	3,800
Financing:			
14.00 Offsetting collections from: Non-Federal sources.........	-10,111	-94,515	-7,114
31.00 Redemption of Debt............	10,111	94,515	7,114
67.10 Budget authority (authority to borrow) (permanent, indefinite) (12 U.S.C. 2281-96)................	4,117	1,600	3,800
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	-5,994	-92,915	-3,314
90.00 Outlays..................	-5,994	-92,915	-3,314
(Memo cast 21.5)	(Memo cast 5)	(Memo cast 5)	(Memo cast 6.9)

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS

(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Enacted/requested:			
Budget authority....................	4,117	1,600	3,800
Outlays............................	-5,994	-92,915	-3,314
Reduction pursuant to P.L. 99-177:			
Budget authority....................	...	...	- 86
Outlays............................	...	...	- 86
Total:			
Budget authority....................	4,117	1,600	3,714
Outlays............................	-5,994	-92,915	-3,400

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

Status of Direct Loans 1/ (in thousands of dollars)

Identification code 69-7012-0-4-401	19 85 actual	19 86 estimate	19 87 estimate
Position with respect to appropriations act limitation on obligations:			
1111 Limitation on direct loans to public........................	6,500	4,000	...
1112 Unused balance of direct loan limitation expiring..........	-4,000	...	...
1150 Total direct loan obligations..	2,500	4,000	...
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year.....	159,609	153,615	60,700
1231 Disbursements: Direct loan disbursements................	4,117	1,600	3,800
1251 Repayments: Repayments and prepayments..................	-10,111	-94,515	-7,114
1290 Outstanding, end of year.......	153,615	60,700	57,386

1/ Loans guaranteed by an agency and disbursed by the FFB are shown as FFB direct loans in this schedule. However, the limitation enacted applies to the guaranteed loan commitments of the originating agency. The amounts of those guaranteed loan commitments reflected in this schedule and subject to such limits are $6,500 thousand in 1985 and $4,000 thousand in 1986.

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RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

PROGRAM AND PERFORMANCE

This program provides direct loans that are disbursed by the Federal Financing Bank to private freight railroad companies that are guaranteed by the Federal Railroad Administration, as authorized by section 511-513 of Public Law 94-210. The budget authority for this account reflects draw downs by the railroads on the direct loans.

STANDARD FORM 300

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS
Reduction Pursuant to Public Law 99-177
Program and Financing (in thousands of dollars)

Identification code 69-7012-6-4-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Direct loans (total obligations) (object class 33.0)	...	...	-86
Financing:			
67.10 Budget authority (authority to borrow) (permanent, indefinite) (12 U.S.C. 2281-96)	...	...	-86
Relation of obligations to outlays:			
71.00 Obligations incurred, net	...	...	-86
90.00 Outlays	...	...	-86

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS
Reduction Pursuant to Public Law 99-177
Status of Direct Loans (in thousands of dollars)

Identification code 69-7012-6-4-401	19 85 actual	19 86 estimate	19 87 estimate
Position with respect to appropriations act limitation on obligations:			
1111 Limitation on direct loans to public........................	...	-172	...
1150 Total direct loan obligations..	...	-172	...
Cumulative balance of direct loans outstanding:			
1231 Disbursements: Direct loan disbursements................	...	...	-86
1290 Outstanding, end of year... ...	...	...	-86
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RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

PROGRAM AND PERFORMANCE

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
FFB DIRECT LOANS

NARRATIVE JUSTIFICATION
(Dollar amounts in thousands)

	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
Budget Authority	$1,600	$3,714	+$2,114

General Statement

Loans made by the Federal Financing Bank (FFB) and guaranteed by the Federal Railroad Administrator under section 511 of the 4R Act are shown as FFB direct loans. Total commitments to guarantee new loans under section 511 are subject to annual limitations enacted through the appropriations process. The ceiling for new loan guarantee commitments for FY 1985 was $6,500,000. For FY 1986, the ceiling is $3,828,000. The budget authority reflects drawdowns provided to recipients by the FFB [illegible]st guaranteed loans.

Loans may be guaranteed under section 511 to acquire or rehabilitate and improve railroad facilities and equipment, or to develop or establish new railroad facilities.

SUMMARY TABLE
(Dollar amounts in thousands)

Budget Authority by Activity	FY 1986 Adjusted	FY 1987	FY 1987 over (+) or under (-) FY 1986
1. Direct Loans	$1,600	$3,714	+$2,114

Detailed Justification

1. Direct Loans $3,714

Direct loans during FY 1987 represent the drawdowns to be provided by the FFB against commitments made to recipients by the Federal Railroad Administrator to guarantee FFB-held obligations of the recipients for track and equipment project financing under section 511 of the 4R Act.

RAIL SERVICE ASSISTANCE

Of the funds made available under this head in Public Law 99-190, $14,355,000 are rescinded.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF THE ADMINISTRATOR
(Rescission Proposal)
Program and Financing (in thousands of dollars)

Identification code 69-0700-5-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Local rail service assistance (total obligations) (object class 41.0)................	...	-14,355	...
Financing:			
40.00 Budget authority (appropriation rescission proposal R86-64)...	...	-14,355	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.......	...	-14,355	...
72.40 Obligated balance, start of year	...	...	-8,900
74.40 Obligated balance, end of year..	...	8,900	4,881
90.00 Outlays....................	...	-5,455	-4,019
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OFFICE OF THE ADMINISTRATOR

PROGRAM AND PERFORMANCE

The rescission is proposed to reduce the fiscal year 1986 funding for the Local Rail Service Assistance Program consistent with the President's budget proposal to eliminate this program. This grant program to States for rehabilitation of rail lines abandoned by the railroads is local in nature and is more-appropriately the responsibility of the State and local governments.

NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

Of the funds made available under this head in Public Law 99-190, $11,962,000 are rescinded.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
NORTHEAST CORRIDOR IMPROVEMENT PROGRAM
(RESCISSION PROPOSAL)
Program and Financing (in thousands of dollars)

Identification code 69-0123-5-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 25.0)........	...	-11,962	...
Financing:			
40.00 Budget authority (appropriation rescission proposal R86-65)........	...	-11,962	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net......	...	-11,962	...
72.40 Obligated balance, start of year	...	...	-11,242
74.40 Obligated balance, end of year	...	11,242	8,012
90.00 Outlays....................	...	-720	-3,230
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NORTHEAST CORRIDOR IMPROVEMENT PROGRAM

PROGRAM AND PERFORMANCE

The proposal would rescind fiscal year 1986 budget authority for the Northeast Corridor Improvement Program. Sufficient unexpended funds are available to complete the remaining projects. This program was transferred to Amtrak at the end of fiscal year 1985 and should no longer be funded through a separate appropriation.

RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

The authority provided to the Secretary of Transportation under this head in Public Law 99-190 is revoked.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
(Rescission Proposal)
Program and Financing (in thousands of dollars)

Identification code 69-4411-5-3-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total obligations (object class 33.0).........	...	-32,059	...
Financing:			
40.00 Budget authority (appropriation rescission proposal R86-66)..........	...	-32,059	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	...	-32,059	...
72.40 Obligated balance, start of year.........................	...	...	-30,456
74.40 Obligated balance, end of year.........................	...	30,456	28,853
90.00 Outlays....................	...	-1,603	-1,603
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STANDARD FORM 300
July 1974, Bureau of the Budget
Circular No. A-11, Revised
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS
(Rescission Proposal)
Status of Direct Loans (in thousands of dollars)

Identification code 69-4411-5-3-401	19 85 actual	19 86 estimate	19 87 estimate
Position with respect to appropriations act limitation on obligations:			
1111 Limitation on direct loans to the public..................	...	...	...
Obligations exempt from limitation:			
1131 Direct loans to the public.....	...	-32,059	...
1150 Total direct loan obligations..	...	-32,059	...
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year.....	...	...	-1,603
1231 Disbursements: Direct loan disbursements................	...	-1,603	-1,603
1290 Outstanding, end of year.......	...	-1,603	-3,206
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RAILROAD REHABILITATION AND IMPROVEMENT FINANCING FUNDS

PROGRAM AND PERFORMANCE

The proposal would rescind fiscal year 1986 funding for the Redeemable Preference Share program. The original objective of this program, to provide low cost loans to rehabilitate railroad lines in financial need during the previous decade, has largely been met. The provision of subsidized loans to the railroads is no longer necessary in light of the improved health of the rail industry and the availability of private sector loans.

NATIONAL RAILROAD PASSENGER CORPORATION

FISCAL YEAR 1987 GRANT JUSTIFICATION

February 5, 1986

NATIONAL RAILROAD PASSENGER CORPORATION
FY87 FEDERAL GRANT JUSTIFICATION

Amtrak is requesting a FY87 grant of $636 million to continue operation of its existing national system. This amount is based on the authorization level for FY87 contained in the pending Consolidation Omnibus Budget Reconciliation Act (COBRA).

In addition to providing an authorization level of $606.1 million for FY87, the Conference Agreement for COBRA also contains certain legislative changes which would increase Amtrak's revenues by approximately $30 million per year. Amtrak is hopeful that Congress will speedily enact the pending Reconciliation Act. Meanwhile, in the absence of this legislation, a budget request of $636 million is necessary to achieve the program levels contemplated by it.

Operations -- $605 million

Operation of the national system in FY87 will require $605 million of grant funding to supplement an estimated $915 million of revenues available for operations.

Capital -- $29 million

Amtrak FY87 capital requirements total $64 million. Of this total, $35 million can be financed by amounts generated by Amtrak's Revenue Enhancement programs, thus requiring a FY87 capital grant of $29 million.

Labor Protection -- $2 million

This estimate covers the continuing impact of multi-year coverage for employees who were adversely affected by route service changes.

Budget Uncertainties

Amtrak's principal FY87 budget uncertainty concerns the impact of contract negotiations with railroad labor. Since over half of Amtrak expense is incurred for wages, benefits and payroll taxes, continued progress in improvement of the revenue to cost ratio requires a reasonable outcome to these negotiations.

NATIONAL RAILROAD PASSENGER CORPORATION
OPERATING EXPENSE COMPARISON
($ MILLIONS)

	FY 1986 Budget		
Operating Expenses	Continuing Resolution Appropriations	Gramm-Rudman March 1, 1986 Limitation	FY 1987 Grant Request
Train Operations	399.4	399.4	391.9
Maintenance of Equipment	356.1	344.5	349.9
Maintenance of Way	164.0	155.6	161.4
On-Board Services	129.8	129.8	129.1
Station Services	107.7	107.7	107.4
Marketing and Reservations	128.7	128.7	127.7
General Support	109.8	109.8	104.3
Insurance & Interest	55.3	55.3	61.8
Depreciation	151.4	151.4	161.1
General and Administrative	30.2	30.2	28.7
Total Operating Expense	1632.4	1612.4	1623.3
Provision for Inflation Increase	--	--	60.0
Total Expense	1632.4	1612.4	1683.3
Less:			
Expense Not Requiring Appropriations	153.4	153.4	163.1
Funded Expense	1479.0	1459.0	1520.2
Total Revenue	895.0	895.0	950.1
Less:			
Revenue Reserved for Capital	25.0	25.0	35.0
Revenue Available for Operations	870.0	870.0	915.1
Operating Grant Requirement	609.0	589.0	605.0
Summary of Grant Request			
Operating	609.0	589.0	605.0
Labor Protection	2.0	2.0	2.0
Capital	5.0	—	29.0
	616.0	591.0	636.0

The FY 1986 program is shown on two bases - the current Continuing Resolution appropriation and the Gramm-Rudman March 1, 1986 limitation. The $25 million reduction required under Gramm-Rudman will reduce equipment and right of way maintenance levels and eliminate the limited funds otherwise available for capital improvements. The Gramm-Rudman level represents a severely constrained program level. The FY 1986 column of the detailed justifications is based upon Gramm-Rudman which is the most conservative of the two program levels.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

TRAIN OPERATIONS
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 399.4	$ 391.9	$ (7.5)

This program covers the actual operation of trains. It includes the cost for train and engine crews, power and fuel, yard operations, joint facilities operations, train movement and dispatching, signal and interlocking operations, crew dispatching, and communication system operations.

Approximately 25% of this amount will be paid in FY 87 to the 23 railroads that operate trains for Amtrak. The remainder covers approximately 3,500 personnel involved in direct Amtrak operations.

Amtrak currently operates approximately 250 trains on a national system of over 24,000 route miles. This includes approximately 600 miles in the Northeast Corridor and over 200 non-corridor miles owned by Amtrak. This system provides services to over 500 towns and cities.

The $7.5 million program decrease results from service changes enacted in FY 1986 and the savings related to the planned takeovers of trainmen and enginemen throughout the entire Amtrak system during FY 1986 and FY 1987. By the end of FY 1987 it is anticipated that a total of 1400 trainmen and enginemen will have been taken over by Amtrak.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

MAINTENANCE OF EQUIPMENT
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 344.5	$ 349.9	$ 5.4

The Maintenance of Equipment program for FY 87 is forecast to be 24% of Amtrak's total expense. This represents a significant improvement over prior years where this percentage ranged as high as 31%.

The Maintenance of Equipment program provides for routine trip maintenance and cleaning, preventive maintenance programs, overhauls, equipment conversion and maintenance provided under contract to commuter agencies. Direct employment levels are expected to be approximately 5,750.

The requested increase of $5.4 million will permit an increase in Heritage and Superliner overhaul requirements necessitated by the increasing age and intense operation of this equipment. This program increase is essential to prevent further deterioration of equipment and insure safe operating conditions while maintaining the existing quality of service. Deferral of this equipment maintenance can have a negative impact on equipment life and availability.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

MAINTENANCE OF WAY
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 155.6	$ 161.4	$ 5.8

The Maintenance of Way Program includes maintenance of track, communications and signal systems, electrification systems, buildings, tunnels, and all other roadway properties under Amtrak's ownership. Direct employment is expected to be approximately 2,800 Amtrak employees. This program also includes payments to operating railroads for similar costs.

Approximately 79% of the Maintenance of Way expense is incurred in the Northeast Corridor. Another 8% covers the contracted fee to operating railroads for use of their track. The remainder covers Amtrak owned track in New York and Michigan and yards in California, Illinois and Florida.

Amtrak is continuing its program to maintain and improve the ride quality for service in the Northeast Corridor through expanded geometry and ride quality testing, interlocker improvements, and monitoring of the performance of our high speed surfacing gangs. In conjunction with Amtrak's emphasis on safety, Amtrak is working diligently to reduce grade crossing accidents by improving and, where feasible, eliminating grade crossings.

The $5.8 million increase in Maintenance of Way expenditures is due to increasing requirements to maintain high speed standards in the Northeast Corridor and for essential right of way improvements.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

ON-BOARD SERVICES
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 129.8	$ 129.1	$ (.7)

This program provides service to passengers on the train. It includes the operation of food service cars, coaches, sleepers, commissaries and facilities for crew layover.

Labor accounts for approximately 70% of the program costs with the remainder covering food, beverages, and supplies. Approximately 2,400 personnel are employed in the program.

Program costs for FY 87 are as follows:

	Labor	Other	Total
Food and Beverage Service	48.3	32.0	80.3
Coach Service	19.5	1.4	20.9
Sleeping Car Service	12.4	2.6	15.0
Other On-Board Support	11.6	1.3	12.9
Total	91.8	37.3	129.1

Overall costs in the On-Board services area will be reduced by $.7 million. This reduction will be generated by capital improvements and improved food and beverage controls implemented during FY 1986.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

STATIONS
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 107.7	$ 107.4	$ (.3)

This program encompasses the operation of stations and includes ticketing, baggage handling and express service. All operating expenses of station operations such as labor, rent, utilities and routine maintenance are also in this program.

The proposed FY 87 route structure assumes operation of approximately 504 manned and unmanned stations. Of these, 81 are owned by Amtrak, and 423 are owned by other railroads, cities or private interests.

Amtrak employs approximately 2,100 people for various levels of station services at 222 of these stations, with railroad personnel providing service at 66 others. Amtrak trains currently stop at an additional 216 locations.

The stations program will be reduced by $.3 million. Savings will be generated from capital improvements and selected station closings made throughout the system.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

MARKETING & RESERVATIONS
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 128.7	$ 127.7	$ (1.0)

This program includes Amtrak's reservation sales system and all activities concerning sales promotion, including local and national advertising.

The advertising and sales promotion programs are important aids to Amtrak in maintaining its position in the marketplace. These programs are a function of Amtrak's revenue objectives and the competitive environment. Despite increasing competition from the domestic airline industry, Amtrak has continued to improve its revenue and ridership performance.

The "All Aboard America" campaign continues to enjoy its positive success of increasing revenues and ridership. Complementing this successful program, Amtrak has initiated other innovative multi-zone and discounted fare programs making train travel more affordable.

Amtrak is continuing its program of accessibility begun in FY 86 through agreements with various airlines linking the two reservation systems for instant access by travel agents for both information and ticketing.

The $1.0 million reduction in this program is the result of increased efficiency through improved systems.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

GENERAL SUPPORT
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 109.8	$ 104.3	$ (5.5)

General Support consists of service support functions and supervisory functions which directly support operations.

The program includes the computer system, revenue accounting, training and the police and security activities. In addition, it provides for field personnel offices, procurement and material control functions, and the train operations center. Direct employment levels are anticipated to be approximately 1,500.

The $5.5 million reduction in General Support programs reflect the corporate goal to reduce support cost by 5% through the consolidation of various support functions, and increased use of our automated system capabilities.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 in this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

INSURANCE & INTEREST
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 55.3	$ 61.8	$ 6.5

This program includes expenses for personal liability and property damage insurance and for a small interest cost required in routine business transactions.

The program increase is related to increased insurance requirements for both property and personal liability. Purchased insurance costs have increased dramatically due to unprecedented negative market conditions caused by turmoil in the insurance industry. Savings resulting from increases in employee safety programs designed to reduce lost time due to injuries will partially offset the large increases in insurance costs.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

DEPRECIATION
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 151.4	$ 161.1	$ 9.7

Depreciation cost is a direct function of the value of depreciable corporate assets. The total expense is a product of asset acquisition cost and depreciation rates which are based on estimated useful life.

The $9.7 million increase in depreciation is the result of continued capitalization of the Northeast Corridor Improvement Project.

This program requires no cash outlays and therefore does not impact the operating grant requirement.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

GENERAL AND ADMINISTRATIVE
Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ 30.2	$ 28.7	$ (1.5)

This program includes the administration and overhead functions of the Corporation, most of which is performed at Corporate Headquarters, and represents less than 2% of the Amtrak total cost.

The program covers the Board of Directors, President's office, Corporate Planning, Government Affairs, Corporate Communications, Law, Labor Relations, Personnel and most financial operations.

The reduction of $1.5 million in the program reflect the corporate goal to reduce administrative cost by 5%. These cost decreases are the result of management's continuing effort to streamline levels of supervision and improve productivity.

The above costs are shown in constant FY 1986 dollars. Inflation during FY 1987 is separately shown on page 14 of this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

REVENUE

Budget FY 86	Estimate FY 87	Change
$ 895.0	$ 950.1	$ 55.1

Fiscal year 1987 revenue is projected to increase by $55.1 million (6.2%) over the FY 86 level. This increase will come from all sources of revenue with significant increases in our enhancement and real estate activities. In 1987 it is assumed the economy in terms of year to year growth, will be relatively stable, resulting in only a moderate improvement in ridership.

The total FY 87 revenue projection is:

	$	%
Passenger related	675.1	71.1
Mail Baggage & Express	26.0	2.7
Real Estate	30.0	3.2
State Payments	14.0	1.5
Commuter Operating Payments	64.0	6.7
Freight	20.0	2.1
Interest	18.0	1.9
Revenue Enhancement	42.0	4.4
Miscellaneous	61.0	6.4
	950.1	100.0

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

Provision for Inflation Increase
FY 87 Over FY 86

Operating Expenses

Budget FY 86	Estimate FY 87	Change
$ --	$ 60.0	$ 60.0

Amtrak inflation indices have been adjusted to agree with the Federal Budget estimate of 4.1%. Labor rates of our contract employees are an uncontrollable cost to Amtrak as rates are arrived at in national negotiations between the railroad unions and industry, any increases resulting from these negotiations in excess of 4.1% will result in program reductions above the levels defined in this justification.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Amtrak's FY87 capital plan totals $64 million. Thirty-five ($35) million of this total can be financed from revenue enhancement sources leaving a grant requirement of $29 million.

The projects selected for funding in the proposed FY87 capital plan represent the highest priority requirements from among a list totaling approximately $215 million.

The major programs in the FY87 capital plan are:

Rolling Stock	$ 27	
Maintenance Facilities	5	
Stations/On Board Services	3	
Right of Way	25	
Other Systems/Support	4	$64
Less: Revenue enhancement proceeds		(35)
FY 1987 capital grant requirement		$29

A more detailed description of each of the above programs may be found in the following pages.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Rolling Stock - $27

Amtrak's Rolling Stock program for FY87 will increase both the revenue generating capacity and operating efficiency of Amtrak's equipment fleet.

- Equipment Modifications:

  Modify Amfleet, Superliner, Turboliner and Capitoliner equipment to provide additional revenue capacity with existing resources, reduce operating and maintenance costs, and improve passenger comfort.

- New Equipment/Additional Capacity:

  Continue programs already underway to provide additional passenger carrying capacity to accommodate customers who are currently being turned away, and increase Amtrak's capabilities to carry mail and express shipments to diversify the Corporation's revenue sources and take advantage of market opportunities. This new capacity will also permit the orderly replacement of Amtrak's Heritage equipment as it reaches the end of its useful life.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Maintenance Facilities - $5

The FY87 Maintenance Facility program will improve the quality and efficiency of equipment maintenance. This in turn will enable us to provide more reliable service to our passengers, increase equipment availability and reduce operating expenses.

- Los Angeles Maintenance Facility:

  Continue a multi-year effort to rebuild and modernize car and locomotive servicing and maintenance facilities. The existing facilities are old, obsolete, and inefficient. By eliminating these problems, this project will improve maintenance efficiency, equipment availability, service quality and reduce costs.

- Sunnyside Yard:

  Continue a multi-year project to rebuild and upgrade deteriorated yard facilities. This effort will improve the efficiency and productivity of the yard, reduce operating expenses, facilitate the on-time dispatching of trains, and increase equipment utilization.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Stations/On Board Services - $3

The Stations/On Board Services program for FY86 will improve the service quality, revenue generating potential, handicapped accessibility, and operating efficiency of Amtrak's stations.

- Station Improvements:

  Upgrade selected stations to improve service quality and revenues, reduce operating costs, and improve handicapped accessibility. Amtrak encourages and solicits local and state participation in these projects so as to enlarge the pool of available funds.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Right of Way - $25

The FY87 Right-of-Way program is designed to protect the investment in Amtrak-owned track, as well as to reduce trip times and improve safety.

- Right of Way and Facilities:

  Continue programs to upgrade track, communication and signal systems, electric traction systems, and bridges and buildings. These programs are designed to protect the federal investment and ensure a safe and efficient high-speed corridor service.

- Vehicles and Track Equipment:

  Replace vital support vehicles and track equipment which, due to their age and condition, are unreliable and costly to maintain.

NATIONAL RAILROAD PASSENGER CORPORATION
FISCAL YEAR 1987 CAPITAL BUDGET JUSTIFICATION

($ Millions)

Other Systems/Support - $4

The Other Systems/Support program for FY87 includes projects aimed at improving computer system operations and efficiency. It also includes projects which help meet various safety and legal requirements.

- Computer Equipment:

  Acquire computer equipment to replace, or upgrade equipment which has exceeded its service life. Provide equipment enhancements to add computer capacity and reduce the need for leased communication lines.

- Safety and Legal Requirements:

  Fund various safety and legal requirements including such things as grade crossing protection, pollution control, etc.

NATIONAL RAILROAD PASSENGER CORPORATION
NECIP
FISCAL YEAR 1987 BUDGET JUSTIFICATION

($ Millions)

	Estimate FY87
Warren Street Bridge Complete reconstruction of the bridge over Warren Street in Trenton, NJ	$3.6
New York Tunnels Electrical & Mechanical Perform the following work in the East River Tunnel: install emergency motor controls on tunnel exhaust fans and tie back to control center, install new tunnel lighting, install communication system, develop life safety plan for evacuation and other emergencies, and install signs.	4.8
Concrete Ties Purchase and install 67,320 concrete ties with undercutting and partial rail renewal.	15.6
TOTAL	$24.0

This request is to continue the next phase of NECIP Projects funded in fiscal year 1986.

The reverse signalling project funded in previous years is expected to be completed with funds appropriated for FY86.

U.S. Department of
Transportation

BUDGET ESTIMATES

FISCAL YEAR 1987

OFFICE OF THE SECRETARY OF TRANSPORTATION

SUBMITTED FOR USE OF
THE COMMITTEES ON APPROPRIATIONS

FY 1987 BUDGET ESTIMATES
DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

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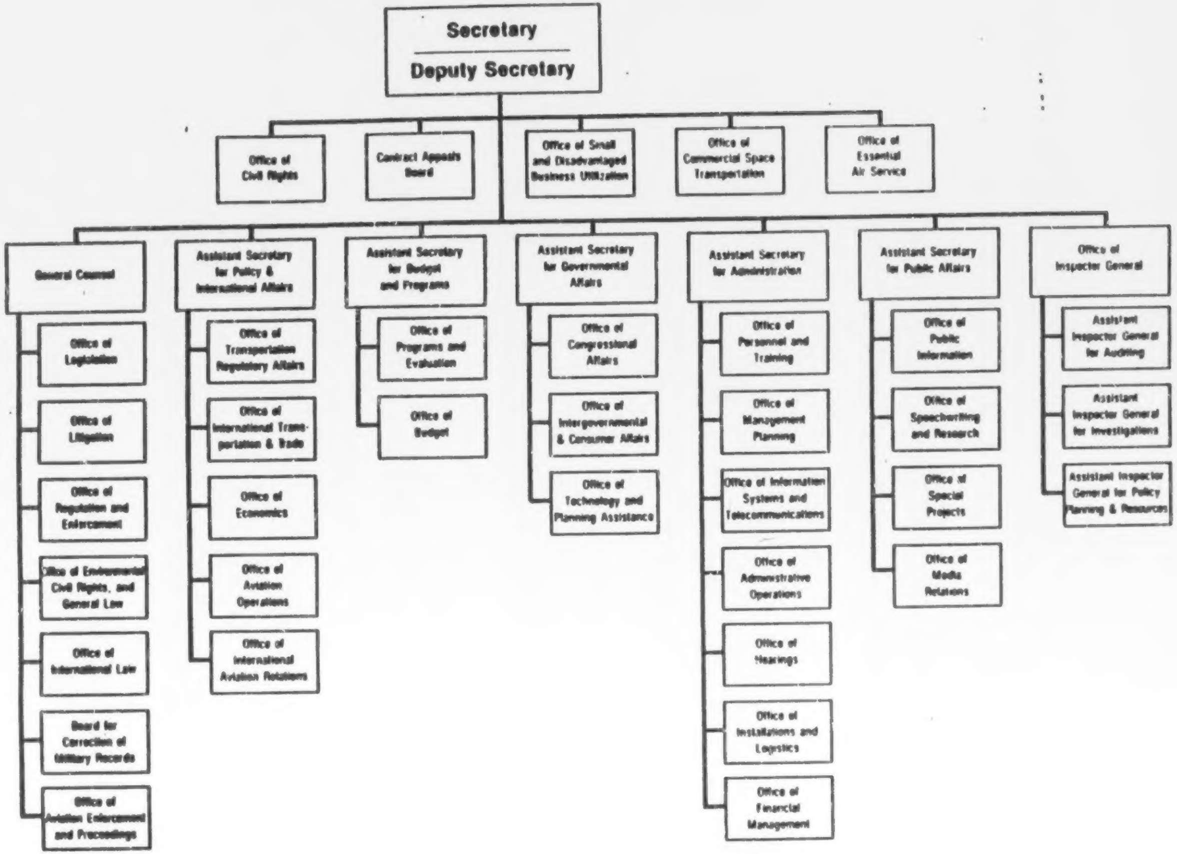
U.S. Department of Transportation

OFFICE OF THE SECRETARY


Secretary
Deputy Secretary
Office of Civil Rights
Contract Appeals Board
Office of Small and Disadvantaged Business Utilization
Office of Commercial Space Transportation
Office of Essential Air Service
General Counsel
Office of Legislation
Office of Litigation
Office of Regulation and Enforcement
Office of Environmental Civil Rights, and General Law
Office of International Law
Board for Correction of Military Records
Office of Aviation Enforcement and Proceedings
Assistant Secretary for Policy & International Affairs
Office of Transportation Regulatory Affairs
Office of International Transportation & Trade
Office of Economics
Office of Aviation Operations
Office of International Aviation Relations
Assistant Secretary for Budget and Programs
Office of Programs and Evaluation
Office of Budget
Assistant Secretary for Governmental Affairs
Office of Congressional Affairs
Office of Intergovernmental & Consumer Affairs
Office of Technology and Planning Assistance
Assistant Secretary for Administration
Office of Personnel and Training
Office of Management Planning
Office of Information Systems and Telecommunications
Office of Administrative Operations
Office of Hearings
Office of Installations and Logistics
Office of Financial Management
Assistant Secretary for Public Affairs
Office of Public Information
Office of Speechwriting and Research
Office of Special Projects
Office of Media Relations
Office of Inspector General
Assistant Inspector General for Auditing
Assistant Inspector General for Investigations
Assistant Inspector General for Policy Planning & Resources

OFFICE OF THE SECRETARY

SUMMARY

In FY 1987, budget authority requested for the Office of the Secretary is $56,540,000.

The FY 1987 request includes:

-- $56,540,000 for Salaries and Expenses. This amount funds the general management and administration of the Department and activities formerly funded under the Transportation Planning, Research, and Development appropriation. Included in this is contractual support for those research activities and studies concerned with planning, analysis, and information development related to the formulation of national transportation policy. There is no provision in this request for Essential Air Service staffing since the program is proposed to be terminated at the end of Fiscal Year 1986. Also included in the OST request is $3,500,000 of new appropriations, which will be available together with $500,000 of prior year balances, for contract support to the Minority Business Resource Center, assisting minority-owned firms in obtaining transportation contracts.

-- Consistent with the proposal to terminate the Essential Air Service program, no 1987 appropriation is requested for Payments to Air Carriers.

-- The Working Capital Fund will continue to finance centralized Departmental services on a reimbursable basis within a total obligation level of $69,640,000, an increase of $5,140,000 above the FY 1986 level.

-- Included under "Other Programs" are schedules for activities to be transferred from the Interstate Commerce Commission. Legislation will be proposed to sunset the ICC at the end of 1986 and transfer certain residual functions to the Department of Transportation.

STATEMENT OF PAYMENTS
TO THE WORKING CAPITAL FUND IN FY 1987

In FY 1987, an amount of $7.7 million from the Salaries and Expenses appropriation will finance services provided through the Department's Working Capital Fund.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
SUMMARY OF FUNDING
(Dollars In Thousands)

Appropriation	FY 1986 Enacted	FY 1986 After Sequestering	FY 1987 Estimate	Difference
Salaries and Expenses	$54,800	$52,443	$56,540	$+ 4,097
(Research and Development)	(1,300)	(1,268)	(2,950)	(+ 1,682)
Payments to Air Carriers	28,000	26,796	—	-26,796
Working Capital Fund	(64,500)	(64,500)	(69,640	(+ 5,140)
TOTAL (Budget Authority)	$82,800	$79,239	$56,540	$-22,699

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
STAFFING SUMMARY
AUTHORIZED POSITIONS AND FTE EMPLOYMENT

	Positions Full-time Permanent			Total Full-time Equivalent Employment		
	1986 Enacted	1986 After Seq.	1987 Est.	1986 Enacted	1986 After Seq.	1987 Est.
Salaries and Expenses	779	748	708	759	743	717
(Research and Development)	(27)	(26)	(26)	(32)	(32)	(26)
Salaries and Expenses, Reimbursable	6	6	6	12	12	12
Working Capital Fund	318	318	308	315	315	298
TOTAL	1103	1072	1022	1086	1070	1027

OFFICE OF THE SECRETARY

Salaries and Expenses

For necessary expenses of the Office of the Secretary of Transportation, including not to exceed $30,000 for allocation within the Department of official reception and representation expenses as the Secretary may determine, [$51,300,000, together with $500,000 of the unobligated balances available under this head at the beginning of fiscal year 1986, and] $56,540,000, of which $2,950,000 shall remain available until expended and shall be available for conducting transportation planning, research and development activities; and of which $3,500,000 shall remain available until expended and shall be available for the purposes of the Minority Business Resources Center as authorized by 49 U.S.C. 332: *Provided*, That, notwithstanding any other provision of law, funds available for the purposes of the Minority Business Resource Center in this or any other Act may be used for business opportunities related to any mode of transportation: *Provided further*, That the unexpended balance of the appropriation "Office of the Secretary, Transportation Planning, Research, and Development" shall be transferred to and merged with this appropriation and shall remain available until expended.

[TRANSPORTATION PLANNING, RESEARCH, AND DEVELOPMENT]

[For necessary expenses for conducting transportation planning, research, and development activities, including the collection of national transportation statistics, and university research and internships, to remain available until expended, $3,500,000.]

(Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0102-0-1-407	1985 actual	1986 estimate	1987 estimate
Program by Activities			
Direct program:			
1. General administration	46,351	47,800	50,090
2. Minority Business Resource Center	3,429	6,571	4,000
3. Research and Development	4,800	4,962	2,950
Total direct program	54,580	59,333	57,040
Reimbursable program	2,234	4,100	4,000
10.00 Total obligations	56,814	63,433	61,040
Financing:			
11.00 Offsetting collections from: Federal funds	-2,234	-4,100	-4,000
17.00 Recovery of prior year obligations	-1,815	---	---
21.40 Unobligated balance available, start of year	-2,247	-5,033	-500
24.40 Unobligated balance available, end of year	5,033	500	---
25.00 Unobligated balance lapsing	632	---	---
39.00 Budget authority	56,184	54,800	56,540
Budget authority:			
40.00 Appropriation	55,700	54,800	56,540
41.00 Transferred to other accounts	-65	---	---
42.00 Transferred from other accounts	549	---	---
43.00 Appropriation (adjusted)	56,184	54,800	56,540
Relation of obligations to outlays:			
71.00 Obligations incurred, net	54,580	59,333	57,040
72.40 Obligated balance, start of year	20,953	21,783	19,680
73.40 Obligated balance transferred, net	2,744	---	---
74.40 Obligated balance, end of year	-21,783	-19,680	-17,675
77.00 Adjustments in expired accounts	567	---	---
78.00 Adjustments in unexpired accounts	-1,815	---	---
90.00 Outlays	55,247	61,436	59,045

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

REDUCTION PURSUANT TO PUBLIC LAW 99-177

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0102-6-1-407	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations	---	-2,357	---
Financing:			
40.00 Budget authority (appropriation)	---	-2,357	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	---	-2,357	---
72.40 Obligated balance, start of year	---	---	-301
74.40 Obligated balance, end of year	---	301	---
90.00 Outlays	---	-2,056	-301

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES
(MINORITY BUSINESS RESOURCE CENTER)
STATUS OF DIRECT LOANS (in thousands of dollars)

Identification code 69-0102-0-1-407	1985 actual	1986 estimate	1987 estimate
Cumulative balance of direct loans outstanding:			
1210 Outstanding, start of year	11,002	11,002	11,002
1231 Disbursements for direct loans	---	---	---
1290 Outstanding, end of year	11,002	11,002	11,002

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

Salaries and Expenses

1. General Administration. This appropriation finances the costs of policy development and central supervisory and coordinating functions necessary for the overall planning and direction of the Department. It covers the immediate secretarial offices as well as those of the assistant secretaries (including staff formerly financed under Transportation Planning, Research and Development) and the general counsel. Also covered are staff assistance and supervision of general management and administration in the Department and execution of functions carried out by the Civil Aeronautics Board prior to January 1, 1985. In addition, the Office of the Secretary provides services on a reimbursable basis for technical assistance to transportation projects, and participation in intergovernmental planning groups. The 1987 budget proposes reductions associated with the termination of the Essential Air Service program and various administrative reductions.

2. The Minority Business Resource Center. This activity provides contractual support for the Center, which now operates in the Office of the Secretary to assist minority business firms, entrepreneurs, and venture groups in securing contracts and subcontracts arising out of projects involving Federal funding.

3. Research and Development. It is proposed that contract support for this activity be financed under this appropriation in 1987. It finances those research activities and studies concerned with planning, analysis, and information development needed to support the Secretary's responsibilities in the formulation of national transportation policies. Included are research, special programs, and university research and internships.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0102-0-1-407		1985 actual	1986 estimate	1987 estimate
	Direct obligations:			
	Personnel compensation:			
11.1	Full-time permanent	29,261	31,292	29,355
11.3	Other than full-time permanent	1,767	1,497	1,499
11.5	Other personnel compensation	560	555	553
11.8	Special personal services payments	142	143	253
11.9	Total personnel compensation	31,730	33,487	31,660
12.1	Personnel benefits: Civilian	3,737	3,755	3,700
21.0	Travel and transportation of persons	524	650	601
22.0	Transportation of things	47	9	9
23.1	Standard level user charges	3,644	3,671	5,605
23.3	Communications, utilities, and miscellaneous charges	1,181	1,278	1,250
24.0	Printing and reproduction	903	962	942
25.0	Other services	12,190	15,076	12,928
26.0	Supplies and materials	180	245	245
31.0	Equipment	238	200	100
41.0	Grants, subsidies, and contributions	206	---	---
99.0	Subtotal, direct obligations	54,580	59,333	57,040

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0102-0-1-407		1985 actual	1986 estimate	1987 estimate
	Reimbursable obligations:			
	Personnel compensation:			
11.1	Full-time permanent	171	220	220
11.3	Other than full-time permanent	574	1,735	1,700
11.5	Other personnel compensation	23	205	205
11.9	Total personnel compensation	768	2,160	2,125
12.1	Personnel benefits: Civilian	106	215	210
21.0	Travel and transportation of persons	20	370	365
22.0	Transportation of things	21	---	---
23.3	Communications, utilities, and miscellaneous charges	6	---	---
25.0	Other services	1,310	1,355	1,300
26.0	Supplies and materials	3	---	---
99.0	Subtotal, reimbursable obligations	2,234	4,100	4,000
99.9	Total obligations	56,814	63,433	61,040

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

PERSONNEL SUMMARY

Identification code 69-0102-0-1-407	1985 actual	1986 estimate	1987 estimate
Direct:			
Total number of full-time permanent positions	809	781	709
Total compensable workyears:			
Full-time equivalent employment	755	789	737
Full-time equivalent of overtime and holiday hours	5	5	6
Reimbursable:			
Total number of full-time permanent positions	3	4	4
Total compensable workyears:			
Full-time equivalent employment	18	47	37

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

SALARIES AND EXPENSES

SUMMARY - PROGRAM, PROJECT, ACTIVITY DETAIL
(in thousands of dollars)

	FY 1986 Enacted	FY 1986 After Sequestering	FY 1987 Estimate
1. Immediate Office of the Secretary	$980	$938	$950
2. Immediate Office of the Deputy Secretary	490	469	475
3. General Counsel	5,560	5,321	5,380
4. Policy and International Affairs 1/	7,800	7,465	10,550
5. Budget and Programs	2,150	2,057	2,080
6. Reception and Representation Allowance	30	29	30
7. Governmental Affairs 1/	2,600	2,488	2,625
8. Administration	20,930	20,030	22,800
9. Public Affairs	1,490	1,426	1,400
10. Executive Secretariat	780	746	755
11. Contract Appeals Board	400	383	390
12. Office of Civil Rights	1,300	1,244	1,260
13. Office of Commercial Space Transportation 1/	500	478	2,275
14. Office of Small and Disadvantaged Business Utilization	900	861	870
15. Minority Business Resource Center 2/	3,000	2,871	3,500
16. Office of Essential Air Service	1,800	1,723	630 3/
17. Regional Representatives	590	565	570
Subtotal-Salaries & Expenses	$51,300	$49,094	$56,540
Transportation Planning, Research & Development	3,500	3,349	-0- 4/
TOTAL	$54,800	$52,443	$56,540

1/ Offices performing TPR&D functions in FY 1986.

2/ Excludes $500,000 in unobligated balances applied to this line item.

3/ Essential Air Service program to be terminated at end of FY 1986.

4/ TPR&D merged with Salaries and Expenses appropriation in FY 1987.

Salaries and Expenses

Summary Statement

The Salaries and Expenses appropriation for the Office of the Secretary finances all activities associated with the central Departmental management role of the Office of the Secretary of Transportation. Included are the formulation and direction of national transportation policy and programs carried out within the Office of the Secretary. In FY 1987, activities formerly funded under the Transportation Planning, Research and Development appropriation are included to finance those research activities and studies concerned with planning, analysis, and information development needed to study critical transportation issues. Also included in this appropriation is the Minority Business Resource Center which assists minority business groups in securing contracts arising out of transportation-related projects involving Federal funding.

In FY 1987, continued emphasis will be placed on issues dealing with maintaining, upgrading, and improving the safety of the Nation's transportation system. Attention will also focus on achieving greater efficiency in providing transportation services and facilities, placing a more equitable share of the costs on transportation users and easing Government regulations.

An appropriation of $56,540,000 is requested for Fiscal Year 1987. This represents an increase of $4,097,000 compared with the Fiscal Year 1986 combined S&E and TPR&D adjusted appropriations, reduced pursuant to P.L. 99-177. This increase is primarily associated with research and development activities ($+1,650,000) in the area of commercial space transportation and a 52 percent increase ($+1,934,000) in the General Services Administration's Standard Level User Charge rate for space rental.

Under personnel compensation and benefits, within grade increases amounts ($+575,000) are reduced by the elimination of the Essential Air Service program ($-1,345,000), which is proposed to be terminated at the end of FY 1986. In addition, there is a reduction in travel costs ($-21,000).

Additional increases include the development of an automated tariff filing system ($+400,000), MBRC contracts ($+629,000), and administrative support and other contractual services ($+316,000), offset by reductions in Essential Air Service contractual support ($-41,000).

SALARIES AND EXPENSES

GENERAL COUNSEL (C)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	115	115	0
Personnel Compensation and Benefits	$5,161,000	$5,220,000	+59,000
Other Costs	$ 160,000	$ 160,000	0
Total	$5,321,000	$5,380,000	+59,000

The General Counsel is the chief legal officer of the Department of Transportation and the final authority within the Department on all legal questions. The General Counsel Office provides legal services to the Office of the Secretary (including its administration of functions transferred from the Civil Aeronautics Board), coordinates and reviews the legal work of the Chief Counsels' Offices of the operating administrations, and generally performs the full range of legal services involved in administering an executive department with national and international responsibilities.

Changes in Resources

The increase of $59,000 represents the increased cost of continuing operations and is primarily attributable to the normal within grade increases.

Justification of Program

The transfer of functions of the Civil Aeronautics Board to the Department of Transportation required that the Office of the General Counsel absorb the attorneys previously performing those functions at the CAB. The assumption of these functions within the Office of the Secretary, including the conduct of formal trial-type hearings pertaining to aviation matters, added many new and complex work responsibilities to the Office's prior workload.

"Other Costs" under this program include contractual services and ancillary costs directly related to ongoing litigation. Consultants will be necessary in proceedings where the Department's interests in a particular issue extend beyond the area of legal coverage normally provided by the office. For example, consultants will be necessary for certain economic, accounting, and financial analyses arising from railroad merger cases. These cases are of extreme importance to the Department, because applications for mergers filed over the next year will affect the entire structure of the Nation's rail industry. In addition to railroad merger cases, it will be necessary to expand contract funds in order to assess and fully participate in certain rail regulatory proceedings of significant economic impact, including ratemaking proceedings and acquisition and abandonment of facilities. Other regulatory matters requiring consultants will involve the Department's efforts, through participation in regulatory proceedings, to seek further deregulation of bus, truck, and barge industries. Moreover, sunset of the CAB and required adoption of certain of its functions by the General Counsel's office results in a need for contractual services to provide expert legal, economic, and financial support for participation in these new functions, including antitrust proceedings and the public counsel function in all hearing cases involving economic aviation regulation and enforcement. Other services included within the program include the purchase, at constantly increasing costs, of legal documents and transcripts necessary for litigation and costs resulting from the preparation of witnesses and testimony for various proceedings.

The above requirements are necessary to carry out the mission of the Office of the General Counsel. Emphasis continues to be placed on implementing various transportation initiatives by providing the highest quality legal work to the the Secretary and the Department. With the resources requested for Fiscal Year 1987, the Office of the General Counsel will be able to maintain its high standard of work.

SALARIES AND EXPENSES

GENERAL COUNSEL (C)

	STAPPING		
	FY 1986	FY 1987	DIFFERENCE
Immediate Office of the General Counsel			
Professional	5	5	-
Non-Professional	3	3	-
Total	8	8	-
Office of Environmental, Civil Rights and General Law			
Professional	17	17	-
Non-Professional	5	5	-
Total	22	22	-
Office of International Law			
Professional	16	16	-
Non-Professional	3	3	-
Total	19	19	-
Office of Litigation			
Professional	11	11	-
Non-Professional	6	6	-
Total	17	17	-
Office of Legislation			
Professional	7	7	-
Non-Professional	2	2	-
Total	9	9	-
Office of Regulation and Enforcement			
Professional	9	9	-
Non-Professional	4	4	-
Total	13	13	-
Documentary Services			
Professional	5	5	-
Non-Professional	7	7	-
Total	12	12	-

[illegible]

Board for Correction of Military Records			
Professional	[illegible]	[illegible]	--
Non-Professional	[illegible]	[illegible]	--
Total	[illegible]	[illegible]	--
Office of Aviation Enforcement and Proceedings			
Professional	[illegible]	[illegible]	--
Non-Professional	[illegible]	[illegible]	--
Total	[illegible]	[illegible]	--
Total - General Counsel			
Professional	[illegible]	[illegible]	--
Non-Professional	[illegible]	[illegible]	--
Total	[illegible]	[illegible]	--

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS (P)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions....................	104	102	-2
Personnel Compensation and Benefits..	$ 9,148,000	$ 9,134,000	$- 14,000
Research & Development Contractual Support	968,000	1,200,000	$+232,000
Other Costs..............................	398,000	216,000	$-182,000
Total	$ 10,514,000	$10,550,000	$+ 36,000

The Assistant Secretary for Policy and International Affairs is the chief policy officer of the Department and is in charge of economic regulation of the airline industry. As chief policy officer, he is responsible to the Secretary for analysis, development, articulation, and review of policies and plans for domestic and international transportation. As overseer of airline economic regulations, he is responsible for international aviation programs, essential air service program review, airline licensing, airline consumer protection regulations, airline mergers and acquisitions, and route awards.

Change in Resources

Activities previously funded under the Transportation Planning, Research and Development (TPR&D) appropriation have been merged into the Salaries and Expenses appropriation. Normal within grade increases in personnel compensation and benefits ($+114,000) are offset by the reallocation of two former TPR&D positions ($-128,000) to the Office of Commercial Space Transportation, resulting in a net decrease in PC&B (-$14,000). The increase ($+232,000) in research and development contractual support is for research activities and studies carried out primarily through contracts with DOT Transportation Systems Center, other Federal agencies, educational institutions, nonprofit research organizations, and private firms. The decrease in "other costs" ($-182,000) includes $150,000 for administrative support reallocated to the Office of Administration for support services previously funded under the TPR&D appropriation. No other new programs or positions are requested for this office in fiscal year 1987.

JUSTIFICATION

Other costs under this program include contractual services of translators and interpreters during bilateral and multilateral meetings; the services of a key policy advisor who assists the Assistant Secretary with the formulation of international civil aviation policies; development of approaches to implement U .S. international civil aviation policy and positions adopted by the Department; the Transportation policy and planning research program that provides the foundation for development of transportation policy, for coordination of national level transportation planning, and for dealing with issues such as regulatory modernization, energy conservation, environmental and safety impacts of transportation, and evaluation of departmental programs; and the University Research activity to provide assistance to colleges, universities and their students to conduct research in the field of transportation. Special emphasis is placed on assisting historically Black colleges and universities in taking part in transportation research and aiding minority students in preparing for careers in transportation. Travel funds are utilized for Departmental representation at domestic and international aviation negotiations and to provide economic and policy analysis in support of the Department's role in the negotiation process and in regulatory meetings with affected groups.

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS (P)

	FY 1986	FY 1987	Difference
Office of the Assistant Secretary			
Professional	13	12	-1
Non-Professional	5	5	-
	18	17	-1
Office of Trans. Regulatory Affairs			
Professional	21	21	-
Non-Professional	7	7	-
	28	28	-
Office of Int'l Transportation & Trade			
Professional	17	16	-1
Non-Professional	4	4	-
	21	20	-1
Office of Economics			
Professional	32	32	-
Non-Professional	5	5	-
	37	37	-
Office of Aviation Operations			
Professional	45	45	-
Non-Professional	9	9	-
	54	54	-
Office of Int'l Aviation Relations			
Professional	20	20	-
Non-Professional	6	6	-
	26	26	-
Assistant Secretary			
Professional	148	146	-2
Non-Professional	36	36	-
	184	182	-2

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR BUDGET AND PROGRAMS (B)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	42	42	-0-
Personnel Compensation and Benefits	$2,040,000	$2,064,000	$+24,000
Other costs 1/	46,000	46,000	-0-
Total	$2,086,000	$2,110,000	$+24,000

The Assistant Secretary for Budget and Programs is the principal staff advisor to the Secretary on the development, review, and presentation of the Department's budget resource requirements, and on the evaluation and oversight of the Department's programs. The primary responsibilities are: ensuring the effective preparation and presentation of sound and adequate budget estimates for the Department; assuring the consistency of the Department's budget execution with the actions and advice of the Congress and the Office of Management and Budget; evaluating the objectives and their effectiveness in achieving those objectives; and advising the Secretary of program and legislative changes necessary to improve program effectiveness.

Change in Resources

No new programs or positions are requested for this office in Fiscal Year 1987. The increase of $24,000 for FY 1987 reflects normal within grade increases.

1/ Includes $28,710 in 1986 and $30,000 in 1987 for Reception and Representation Funds.

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR BUDGET AND PROGRAMS (B)

Office of the Assistant Secretary	FY 1986	FY 1987	Difference
Professional	3	3	---
Nonprofessional	2	2	---
Total	5	5	---
Office of Programs and Evaluation			
Professional	16	16	---
Nonprofessional	5	5	---
Total	21	21	---
Office of Budget			
Professional	13	13	---
Nonprofessional	3	3	---
Total	16	16	---
Total - Assistant Secretary for Budget and Programs			
Professional	32	32	---
Nonprofessional	10	10	---
Total	42	42	---

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR GOVERNMENTAL AFFAIRS (I)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions...	56	54	-2
Personnel Compensation and Benefits.......	$2,404,000	$2,391,000	- 13,000
Research & Development Contractual Support...	100,000	150,000	+ 50,000
Other Costs...........	84,000	84,000	-0-
Total	$2,588,000	$2,625,000	+ 37,000

The Assistant Secretary for Governmental Affairs is the principal advisor to the Secretary on all Congressional and Intergovernmental activities of all Department legislative initiatives and other relationships with Members of Congress; the promotion of effective communications with other federal agencies; regional Department officials; state and local governments and national organizations for development of Departmental programs; providing support and advice to the Regional Representatives of the Secretary of Transportation; and, assuring that consumer preferences, awareness, and needs are brought into the decision-making process.

This Office also administers the Department's Technology Sharing Program and assures that state and local governments have access to the best available information on new transportation technologies. In addition, this Office serves as the focal point for Transportation Intermodal Planning Groups (IPGs) and provides advice to the Departmental operating elements on comprehensive transportation planning assistance and intermodal planning efforts.

Changes in Resources

Normal within-grade increases ($+32,000) are offset by the reduction of two positions and their associated cost ($-45,000) due to the proposed termination of the Essential Air Service Program, resulting in a decrease ($-13,000) in Personnel Compensation and Benefits. The increase ($+50,000) in Research and Development Contractual Support is for enhancement of technology transfer and transportation planning functions which have been merged into the Salaries and Expenses appropriation. These include: Technical Program Development Support; Innovative Outreach and Assistance; Financing Opportunities in Transportation; Rural Transportation; and Transportation Safety Programs.

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR GOVERNMENTAL AFFAIRS (I)

	STAFFING		
	FY 1986	FY 1987	Difference
Office of the Assistant Secretary			
Professional	8	8	-
Non-Professional	3	3	-
Totals	11	11	-
Office of Congressional Affairs			
Professional	10	10	-
Non-Professional	8	8	-
Totals	18	18	-
Office of Intergovernmental and Consumer Affairs			
Professional	16	15	-1
Non-Professional	5	4	-1
Totals	21	19	-2
Office of Technology and Planning Assistance			
Professional	5	5	-
Non-Professional	1	1	-
Totals	6	6	-
Total - Assistant Secretary for Governmental Affairs			
Professional	39	38	-1
Non-Professional	17	16	-1
Totals	56	54	-2

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR ADMINISTRATION (M)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	177	173	-4
Personnel Compensation And Benefits	$ 9,124,000	$ 9,094,000	$ -30,000
Other Costs	10,906,000	13,706,000	+2,800,000
TOTAL	$20,030,000	$22,800,000	$2,770,000

The Assistant Secretary for Administration, the principal advisor to the Secretary on Departmental administrative management matters, is responsible for personnel and training, management policy. employment ceiling control system, automated systems policy, administrative operations, installations and logistics, internal Departmental financial systems, hearing proceedings arising under Title IV and X of the Federal Aviation Act, and ADP facilities and services. Major program activities include: developing administrative management policies and programs, monitoring and assessing Departmental organization and manpower distribution, evaluating the quality of administrative management programs in the various administrations, operating an executive personnel management program, providing staff advice to the Secretary on major systems acquisitions and planning, developing and administering the DOT Headquarters ADP operations including computer service operations.

Major direct administrative services to the Office of the Secretary (OST) include such areas as accounting, procurement, personnel management, and ADP operations.

Changes in Resources

For FY 1987, a net increase of $2,770,000 is requested. Personnel Compensation and Benefits reflects a net reduction of $30,000. The early termination of the Essential Air Service Program will result in savings of four administrative support positions and associated funding of $117,000. This reduction is offset by an increase of $87,000 for annualization of FY 1986 and new FY 1987 within grade increases and performance awards.

For Other Costs, an increase of $2,800,000 is requested. The major increase of $1,934,000 is required to fund the 52 percent increase in the General Services Administration's Standard Level User Charge rate for space rental.

Also included is $400,000 for the development of an automated tariff filing system which will bring our processing methods up to date with the airline industry. The Federal Aviation Act requires both United States and foreign airlines to file their international fares, cargo rates and related rules with the Department and charges DOT with the responsibility for reviewing and approving or disapproving these tariff filings as well as maintaining the public tariff files. There is a huge volume of currently effective fares, rates and rules on file (more than one million on file with new pages received at a rate of 500 per day). The Department now processes this material manually utilizing a paper filing and review system that dates back to 1938. Faced with the large volume of international tariffs, the need to process filings timely, the enormous cost to the airline industry (more than $5 million per year), the paperwork burden on the aviation industry, the time-consuming process of searching through tariffs manually to evaluate new filings and the unwieldy manual record-keeping, it is necessary for the Department to automate this system and become compatible with major airlines and tariff filing agents which are already computerized. This will allow DOT to receive data electronically, which will result in long-term cost-savings for both the industry and the government.

An increase of $316,000 is required to provide the full range of administrative support to the Office of the Secretary for purchase of equipment, communications services, supply requirements and general housekeeping services.

Additionally, the FY 1987 budget request proposes merging of activities formerly funded in the Transportation Planning, Research and Development (TRP&D) Appropriation with the Salaries and Expenses Appropriation. Thus, administrative support services funded in the Office of Policy and International Affairs, TPR&D Appropriation in FY 1986, are included here for FY 1987. These funds ($150,000) provide for rental of equipment, communications, printing and supply costs.

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR ADMINISTRATION (M)

		STAFFING	
	FY-1986	FY-1987	Difference
Assistant Secretary			
Professional	5	5	---
Non-Professional	2	2	---
Total	7	7	---
Personnel and Training			
Professional	40	40	---
Non-Professional	14	14	---
Total	54	54	---
Management Planning			
Professional	14	14	---
Non-Professional	4	4	---
Total	18	18	---
Information Systems and Telecommunications Policy			
Professional	14	14	---
Non-Professional	3	3	---
Total	17	17	---
Administrative Operations			
Professional	18	16	-2
Non-Professional	4	4	---
Total	22	20	-2
Office of Hearings			
Professional	5	5	---
Non-Professional	3	3	---
Total	8	8	---
Installations and Logistics			
Professional	23	23	---
Non-Professional	3	3	---
Total	26	26	---
Financial Management			
Professional	22	20	-2
Non-Professional	3	3	---
Total	25	23	-2
TOTAL ASSISTANT SECRETARY FOR ADMINISTRATION			
Professional	141	137	-4
Non-Professional	36	36	---
Total	177	173	-4

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR PUBLIC AFFAIRS (A)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	31	30	-1
Personnel Compensation and Benefits	$ 1,368,000	$ 1,342,000	$ -26,000
Other Costs	58,000	58,000	- 0 -
Total	$ 1,426,000	$ 1,400,000	$ -26,000

The Assistant Secretary for Public Affairs serves as the spokesperson and principal channel of communicating information to the news media and the public on Departmental plans, programs, and activities. The office issues news releases, articles, fact sheets, briefing materials, publications, and audio-visual material. It also provides information to the Secretary on opinions and reactions of the public and news media on programs and on transportation issues. It arranges news conferences and provides speeches, talking points, and byline articles for the Secretary and other senior Department officials, and arranges the Secretary's media scheduling.

Change in Resources

Within grade increases (+ $12,000) in Fiscal Year 1987 are offset by the reduction of one position (- $38,000) and associated costs due to the proposed termination of the Essential Air Service function, resulting in a net decrease of $26,000.

No new programs or positions are requested for this office in Fiscal Year 1987.

SALARIES AND EXPENSES

ASSISTANT SECRETARY FOR PUBLIC AFFAIRS (A)

	STAFFING		
	FY-1986	FY-1987	DIFFERENCE
Assistant Secretary			
Professional	7	7	--
Non-Professional	1	1	--
Total	8	8	--
Office of Speechwriting & Research			
Professional	3	3	--
Non-Professional	1	1	--
Total	4	4	--
Office of Special Projects			
Professional	2	2	--
Non-Professional	1	1	--
Total	3	3	--
Office of Public Information			
Professional	10	10	--
Non-Professional	3	2	-1
Total	13	12	-1
Office of Media Relations			
Professional	2	2	--
Non-Professional	1	1	--
Total	3	3	--
Total - Assistant Secretary for Public Affairs			
Professional	24	24	--
Non-Professional	7	6	-1
Total	31	30	-1

SALARIES AND EXPENSES

THE SECRETARIAL OFFICES (S)

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	147	115	-32
Personal Compensation and Benefits	$ 6,884,000	$ 6,116,000	-$ 768,000
Minority Business Resource Center.	2,871,000	3,300,000	+ 429,000
Research and Development Contractual Support . . .	200,000	1,600,000	+ 1,400,000
Other Costs	523,000	659,000	+ 136,000
Total	$10,478,000	$11,675,000	+$1,197,000

Included under this heading is the Immediate Office of the Secretary which encompasses the staffs of the Secretary and the Deputy Secretary, the Executive Secretariat, the Regional Representatives of the Secretary, and the Offices of Civil Rights, Contract Appeals Board, Small & Disadvantaged Business Utilization, Commercial Space Transportation, and Essential Air Service. The primary responsibility of this organization is to provide overall planning, direction, and control of Departmental affairs. Also included is (1) the exercise of executive direction over the Minority Business Resource Centers & conducting programs directed at stimulating, promoting and assisting minority business enterprise participation in Departmental procurement & Federal financial assistance activities; (2) encouraging, facilitating and promoting expendable launch vehicle (ELVs) activities as well as conducting the licensing process for ELVs; and (3) ensuring the continuation of air services during the transition from a regulated to a deregulated environment as well as assisting communities in adjusting to the changes.

Changes in Resources

The decrease in positions reflects the elimination of 34 positions in the Office of Essential Air Service (providing funding for only one-third of the year) and includes a reallocation of two positions from the Office of Policy and International Affairs formerly funded under the TPR&D appropriation to the Office of Commercial Space Transportation. The essential air service program is scheduled for termination in FY 87 which will result in the abolishment of the Office of Essential Air Service.

The Commercial Space Launch Act assigned DOT new regulatory responsibilities. In order to build the institutional expertise and corporate memory needed to manage a regulatory program and support the growing workload associated with the standards development process, additional contract support dollars and two additional positions are being requested. Other changes in funding are addressed in the various offices' individual displays that follow.

[illegible]

SALARIES AND EXPENSES

OFFICE OF THE SECRETARY

	1986 After Sequestration	1987 Estimate	Difference
Permanent Positions	[illegible]	[illegible]	[illegible]
Personnel Compensation and Benefits	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Other Costs	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]

[illegible]

Changes in Resources

[illegible]

OFFICE OF THE DEPUTY SECRETARY

	1986 After Sequestration	1987 Estimate	Difference
Permanent Positions	[illegible]	[illegible]	[illegible]
Personnel Compensation and Benefits	[illegible]	[illegible]	[illegible]
Other Costs	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]

[illegible]

Changes in Resources

[illegible]

SALARIES AND EXPENSES

REGIONAL REPRESENTATIVES

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	12	12	--
Personal Compensation and Benefits	$ 338,000	$ 342,000	+ $ 4,000
Other Costs	30,000	31,000	+ 1,000
Total	$ 368,000	$ 373,000	+ $ 5,000

Included under this heading is the Regional Representatives of the Secretary and their staffs whose primary responsibility is to represent the Secretary and promote the interest of the Department in the Federal regions.

Changes in Resources

Funding: An increase of $ 5,000 is requested for increased costs in personal compensation and benefits and administrative costs.

EXECUTIVE SECRETARIAT

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	23	23	--
Personal Compensation and Benefits	$ 734,000	$ 748,000	+ $ 14,000
Other Costs	10,000	9,000	- 1,000
Total	$ 744,000	$ 757,000	+ $ 13,000

The Executive Secretariat provides an organized staff service for the Secretary and Deputy Secretary to assist them in carrying out their management functions and facilitate their responsibilities for formulating, coordinating, and communicating major policy decisions. It controls and coordinates internal and external material directed to the Secretary and Deputy Secretary and ensures that their decisions and instructions are implemented.

Changes in Resources

Funding: An increase of $14,000 is requested for increased costs in personal compensation and benefits, and a $1,000 decrease in administrative support costs.

SALARIES AND EXPENSES

CONTRACT APPEALS BOARD

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	5	5	--
Personnel Compensation and Benefits	$ 358,000	$ 365,000	+ $ 7,000
Other Costs	25,000	25,000	--
Total	$ 383,000	$ 390,000	+ $ 7,000

Included under this heading is the Contract Appeals Board which encompasses the immediate office staff of the Board. The primary responsibility of this organization is to provide an independent forum for hearing and deciding all claims by or against a contractor relating to a contract by any element of the Department.

Changes in Resources

Funding: An increase of $7,000 is requested for increased costs in personnel compensation and benefits.

OFFICE OF CIVIL RIGHTS

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	24	24	--
Personnel Compensation and Benefits	$1,201,000	$1,217,000	+ $ 16,000
Other Costs	43,000	43,000	--
Total	$1,244,000	$1,260,000	+ $ 16,000

The Office of Civil Rights has primary responsibility for assisting the Departmental Director of Civil Rights in advising and representing the Secretary on civil rights and equal opportunity matters and assuring full implementation of civil rights and equal opportunity percepts in all of the Department's official actions.

Changes in Resources

Funding: An increase of $16,000 is requested for increased costs in personnel compensation and benefits.

SALARIES AND EXPENSES

OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	14	14	--
Personnel Compensation and Benefits	$ 802,000	$ 811,000	+ $ 9,000
Other Costs	59,000	59,000	--
Minority Business Resource Center	2,871,000	3,500,000	+ 629,000
Total	$3,732,000	$4,370,000	+ $638,000

The Office of Small and Disadvantaged Business Utilization has primary responsibility for providing policy direction for small and disadvantaged business participation in the Department's procurement and grant programs, and effective execution of the functions and duties under sections 8 and 15 of the Small Business Act, as amended.

The Minority Business Resource Centers design and conduct a coordinated program of activities directed at stimulating, promoting and actively assisting minority business enterprise and small and disadvantaged business participation in Departmental procurement and Federal financial assistance activities.

Changes in Resources

Funding: An increase of $9,000 is requested for increased costs in personnel compensation and benefits for the Office of Small and Disadvantaged Business Utilization (OSDBU), and an increase of $629,000 for the Minority Business Resource Center (MBRC) program.

MBRC contract funds will primarily fund the program management centers. In addition, funds will cover the costs associated with the National Information Clearinghouse, the short-term lending program, administrative costs associated with the revised bonding program, and an additional grant agreement associated with the Maritime project.

SALARIES AND EXPENSES

OFFICE OF COMMERCIAL SPACE TRANSPORTATION

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	9	11	+2
Personnel Compensation and Benefits	$ 382,000	$ 579,000	+$ 197,000
Research and Development Contractual Support	150,000	1,600,000	+ 1,450,000
Other Costs	96,000	96,000	--
Total	$ 628,000	$2,275,000	+$1,647,000

Included under this heading is the staff of the Office of Commercial Space Transportation primarily responsible for carrying out the responsibilities defined in Executive Order 12465 to encourage, facilitate, and promote commercial expendable launch vehicle (ELV) activities by the United States private sector as well as conduct the licensing process for ELVs. It also provides the Secretary with the staff support necessary to assist the Secretary in the role as a member of the National Security Council Senior Interagency Group (Space).

Changes in Resources

Funding: The request for an increase of two additional positions is for DOT's newly assigned regulatory responsibilites under the Commercial Space Launch Act. In order to build the institutional expertise and corporate memory needed to manage a regulatory program and support the growing workload associated with the standards development process, two additional positions are requested.

An increase in personnel compensation and benefits is requested to fund the two additional positions requested plus the costs of hiring temporarily the services of leading experts and consultants in areas of satellite communications, range safety, launch vehicle design and construction, insurance and underwriting space economics.

The requested increase in other costs is for research contracts to support the Department in carrying out its regulatory, safety, environmental, licensing, policy and planning responsibility efforts. DOT must, in order to carry out its responsibilities: (1) establish a framework for licensing commercial space launch vehicles and their associated facilities and services requiring an in-depth review to determine which existing laws and regulations are necessary to protect public health and safety, safety of property, and national security and foreign policy interests of the United

States and prescribe additional licensing requirements that may be necessary; (2) develop standards upon which to evaluate private sector proposals to launch payloads into space from either national or commercial launch sites requiring an analysis of safety practices currently used at U. S. and foreign launch ranges including safety personnel qualifications, tracking requirements, flight termination requirements, safety operating procedures, safety standards, equipment and instrumentation; (3) conduct safety research, identifying and analyzing regulatory options or alternatives for addressing these issues; (4) assess the feasibility, relative effectiveness in minimizing the threat to the public health and safety, costs and any adverse impacts on the commercial space industry of each option and perform an economic analysis to ensure proposed regulations or standards are economically reasonable relative to their technical effectiveness; (5) establish minimum levels of financial responsibility for damage to third parties caused by the launching of commercial ELVs and the operations of commercial launch sites requiring an analysis to assess the liability incurred by the Government and commercial space launch operations in terms of environmental impacts and other potential hazards posed by a commercial launch program; (6) develop policies, plans and procedures for conducting inspections to verify that conditions of license approval are satisfied; and (7) as a participant in the formulation of national space policy, maintain an in-depth knowledge of the payload market for which commercial launch vehicles compete, the relative strengths and weaknesses of those launch systems, and any developments in technological, financial and business practices that may have the effect of changing the competitive balance, and evaluate the long term effects of Federal activities on ELV commercialization.

SALARIES AND EXPENSES

OFFICE OF ESSENTIAL AIR SERVICE

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	34	--	-34
Personnel Compensation and Benefits	$1,625,000	$ 595,000	- $1,030,000
Other Costs	98,000	35,000	- 63,000
Total	$1,723,000	$ 630,000	- $1,093,000

Included under this heading is the staff of the Office of Essential Air Service which has primary responsibility for determining and guaranteeing the required level of air service to communities eligible to receive essential air service and administering the essential air service subsidy program.

Changes in Resources

Funding: The decrease of $1,093,000 reflects the elimination of 34 positions and associated administrative costs during FY 87. This office will be abolished during FY 87 due to the elimination of payments to air carriers. Funds are requested for one-third of FY 87 to provide for an orderly transition during the program termination.

SALARIES AND EXPENSES

THE SECRETARIAL OFFICES (S)

	Staffing		
	1986	1987	Difference
Office of the Secretary			
Professional	10	10	--
Non-Professional	4	4	--
Total	14	14	--
Office of the Deputy Secretary			
Professional	5	5	--
Non-Professional	5	5	--
Total	10	10	--
Regional Representatives			
Professional	6	6	--
Non-Professional	6	6	--
Total	12	12	--
Executive Secretariat			
Professional	12	12	--
Non-Professional	11	11	--
Total	23	23	--
Contract Appeals Board			
Professional	4	4	--
Non-Professional	1	1	--
Total	5	5	--
Civil Rights			
Professional	17	17	--
Non-Professional	7	7	--
Total	24	24	--
Small and Disadvantaged Business Utilization			
Professional	12	12	--
Non-Professional	2	2	--
Total	14	14	--
Commercial Space Transportation			
Professional	7	9	+2
Non-Professional	2	2	--
Total	9	11	+2
Essential Air Service			
Professional	28	--	-28
Non-Professional	6	--	- 6
Total	34	--	-34
Total, Secretarial Offices			
Professional	101	75	-26
Non-Professional	44	38	- 6
Total	145	113	-32

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

[Payments to Air Carriers]

[For payments to air carriers of so much of the compensation fixed and determined under section 419 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1389), as is payable by the Department of Transportation, $28,000,000, to remain available until expended.] (49 U.S.C. 1551; Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

PAYMENTS TO AIR CARRIERS

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0150-0-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
Section 419 subsidy:	34,949	36,500	---
10.00 Total obligations (object class 41.0)	34,949	36,500	---
Financing:			
21.40 Unobligated balance available, start of year	-11,215	-16,074	-7,574
22.40 Unobligated balance transferred, net	1,611	---	---
24.40 Unobligated balance available, end of year	16,074	7,574	7,574
39.00 Budget authority	41,419	28,000	---
Budget authority:			
40.00 Appropriation	52,000	28,000	---
41.00 Transferred to other accounts	-10,581	---	---
43.00 Appropriation(adjusted)	41,419	28,000	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	34,949	36,500	---
72.40 Obligated balance, start of year:	3,685	4,947	2,447
74.40 Obligated balance, end of year:	-4,947	-2,447	---
90.00 Outlays	33,687	39,000	2,447

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

PAYMENTS TO AIR CARRIERS

REDUCTION PURSUANT TO PUBLIC LAW 99-177

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0150-6-1-402	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total obligations	---	-1,204	---
Financing:			
40.00 Budget authority (appropriation)	---	-1,204	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	---	-1,204	---
72.40 Obligated balance, start of year	---	---	-78
74.40 Obligated balance, end of year	---	78	---
90.00 Outlays	---	-1,126	-78

These reductions are required by the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177).

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

Payments to Air Carriers

The Secretary of Transportation, through powers of delegation and review, now administers the section 419 subsidy program, which was added as part of the Airline Deregulation Act of 1978. Subsidy under this program is paid to airlines--primarily commuter carriers. No funds are requested for this program in 1987.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

PAYMENTS TO AIR CARRIERS

SUMMARY - PROGRAM, PROJECT, ACTIVITY DETAIL
(in thousands of dollars)

	FY 1986 Enacted	FY 1986 After Sequestering	FY 1987 Estimate
Payments to Air Carriers - Total	29,000	$25,798	$ -0-

THE SECRETARIAL OFFICES (S)

1986 After Sequestering	1987 Estimate	Difference
$25,798,000	----	-$25,798,000

Office of Essential Air Services

This appropriation provided funding for subsidy payments to air carriers under Section 419 of the Federal Aviation Act of 1958, as amended by the Airline Deregulation Act of 1978. Essential Air Service (EAS) was created by Congress to help communities adjust to airline deregulation. It was to be a 10 year program beginning in 1979 and scheduled to expire in 1988. DOT's budget moves up the termination of the program by two years. No funding, therefore, is being requested for EAS in FY 87. Airlines and consumers have adjusted to deregulation as evidenced by the airline industry's 1984 profits which were the highest since deregulation. DOT has concluded that the EAS program has fulfilled its purpose. Seventy-five percent of the cities that receive subsidy under the programs are located within 150 miles of a major hub airport. As air carriers have adjusted to deregulation, affected communities have often been served by expanded new commuter-class air service without reliance on the EAS program. Continuing to provide subsidies fosters the regulatory relationship built up between the Government and the airlines for years. Termination of the EAS subsidy will end this anachronism to a mature, deregulated airline industry. When the subsidy program is terminated, air service to communities which are subsidized may become less frequent. In the majority of those cases where demand for air travel is minimal, there is alternative surface transportation available.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

Limitation on Working Capital Fund

Necessary expenses for operating costs and capital outlays of the Department of Transportation Working Capital Fund not to exceed [[illegible]] [illegible] shall be paid, in accordance with law, from appropriations made available by this Act and prior appropriation Acts to the Department of Transportation, together with advances and reimbursements received by the Department of Transportation. (Department of Transportation and Related Agencies Appropriations Act, [illegible] as included in Public Law [illegible].)

[illegible]
[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
[illegible]			
[illegible]			
(a) [illegible]	[illegible]	[illegible]	[illegible]
(b) [illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
(a) [illegible]	[illegible]	[illegible]	[illegible]
(b) [illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
(a) [illegible]	[illegible]	[illegible]	[illegible]
(b) [illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
(a) [illegible]	[illegible]	[illegible]	[illegible]
(b) [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
[illegible]	[illegible]	[illegible]	---
[illegible]	[illegible]	[illegible]	[illegible]
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DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

WORKING CAPITAL FUND

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 65-4520-0-4-407		1985 actual	1986 estimate	1987 estimate
Financing:				
11.00	Offsetting collections from: Federal funds	-41,970	-65,000	-70,240
17.00	Recovery of prior year obligations	-10,840	---	---
21.98	Unobligated balance available, start of year	-2,292	-632	-1,132
24.98	Unobligated balance available, end of year	632	1,132	1,732
39.00	Budget authority	---	---	---
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	12,500	-500	-600
72.10	Receivables in excess of obligations, start of year	---	-2,295	-3,000
72.40	Obligated balance, start of year	5,607	---	---
74.10	Receivables in excess of obligations, end of year	2,295	3,000	4,100
78.00	Adjustments in unexpired accounts	-10,840	---	---
90.00	Outlays	9,562	205	500

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

Limitation on Working Capital Fund

The working capital fund finances common administrative services that are centrally performed in the interest of economy and efficiency in the Department.

Services rendered are charged for at rates that return in full all operating expenses, including a normal reserve for accrued annual leave and depreciation of equipment. The fund is reimbursed by the operating administrations and offices being served.

The activities of the working capital fund have been consolidated as follows:

Publishing and graphics activities include publishing and graphic programs; still photographic services; and visual services.

Support services activities include imprest fund, central employment information; warehouse management; parking management; chauffeur services; mail and messenger service; management information center; facilities and space management; and security service.

Library services include information retrieval and distribution services.

Transportation computer activities include computer time-sharing services and the transportation computer center.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

WORKING CAPITAL FUND

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 65-4520-0-4-407		1985 actual	1986 estimate	1987 estimate
	Personnel compensation:			
11.1	Full-time permanent	8,107	8,030	8,235
11.3	Other than full-time permanent	286	250	250
11.5	Other personnel compensation	276	200	200
	Total personnel compensation	8,669	8,480	8,685
12.1	Personnel benefits: Civilian	1,032	1,022	1,047
13.0	Benefits for former personnel	2	---	---
21.0	Travel and transportation of persons	101	115	115
22.0	Transportation of things	5	14	14
23.1	Standard level user charges	2,444	3,529	5,522
23.3	Communications, utilities, and miscellaneous charges	4,569	7,198	10,117
24.0	Printing and reproduction	37	63	67
25.0	Other services	34,717	38,838	39,018
26.0	Supplies and materials	1,814	1,856	1,911
31.0	Equipment	1,080	3,385	3,144
99.9	Total obligations	54,470	64,500	69,640

PERSONNEL SUMMARY

Total number of full-time equivalent positions	346	318	309
Total compensable workyears:			
Full-time equivalent employment	321	325	308
Full-time equivalent of overtime and holiday hours	2	2	2

WORKING CAPITAL FUND

OFFICE OF THE SECRETARY

	1986 After Sequestering	1987 Estimate	Difference
Permanent Positions	318	309	-9
Personnel Compensation And Benefits	$ 9,502,000	$ 9,732,000	+$ 230,000
Other Costs	54,998,000	59,908,000	+ 4,910,000
TOTAL	$64,500,000	$69,640,000	+$5,140,000

The Working Capital Fund finances common administrative services that are centrally performed in the interest of economy and efficiency in the Department.

Services rendered are charged for at rates that return in full all operating expenses, including a normal reserve for accrued annual leave and depreciation of equipment. The fund is reimbursed by the operating administrations and offices being served.

Justification

For FY 1987 a limitation of $69,640,000 is requested, an increase of $5,140,000. Additionally, a reduction of nine positions is reflected.

Increases requested for FY 1987 include: $2,700,000 to fund the headquarters telephone switch for the full year in FY 1987; $1,993,000 for increased standard level user charges from GSA; $1,370,000 for anticipated increases in the costs of rentals, maintenance, service and supply contracts and for annualization of FY 1986 and new FY 1987 within grades and performance awards. These increases are offset by a reduction of $923,000 primarily as a result of reduced equipment purchases and reduced staffing levels.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

TRANSPORTATION RESEARCH ACTIVITIES OVERSEAS
(SPECIAL FOREIGN CURRENCY PROGRAM)

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0105-0-1-407	1985 actual	1986 estimate	1987 estimate
Financing:			
21.40 Unobligated balance available, start of year	-1	-1	---
24.40 Unobligated balance available, end of year	1	---	---
25.00 Unobligated balance lapsing	---	1	---
39.00 Budget authority	---	---	---
Relation of obligations to outlays:			
71.00 Obligations incurred, net	---	---	---
72.40 Obligated balance, start of year:	19	19	---
74.40 Obligated balance, end of year:	-19	---	---
90.00 Outlays	---	19	---

Foreign currencies in excess of the normal requirements of the United States have been made available in prior years for research in foreign countries.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

GIFTS AND [DONATIONS] BEQUESTS

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-8548-0-7-407		1985 actual	1986 estimate	1987 estimate
	Program by activities:			
10.00	Total obligations	3	---	---
	Financing:			
	Unobligated balance available, start of year:			
21.40	Treasury balance	-31	-27	-27
21.40	U.S. securities(par)	-1	-1	-1
	Unobligated balance available, end of year:			
24.40	Treasury balance	27	27	27
24.40	U.S. securities (par)	1	1	1
60.00	Budget authority (appropriation) (permanent, indefinite)	-3	---	---
	Relation of obligations to outlays:			
71.00	Obligations incurred, net	3	---	---
72.40	Obligated balance, start of	---	3	---
74.40	Obligated balance, end of year	-3	---	---
90.00	Outlays	---	3	---

Donations received are available for transportation activities.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

ACTIVITIES TRANSFERRED FROM SALARIES AND EXPENSES, INTERSTATE COMMERCE COMMISSION

Legislation will be proposed to sunset the Interstate Commerce Commission at the end of 1986 and transfer residual functions to the Department of Transportation, except that rail antitrust functions will transfer to the Department of Justice.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

ACTIVITIES TRANSFERRED FROM SALARIES AND EXPENSES
INTERSTATE COMMERCE COMMISSION

(Proposed for later transmittal, proposed legislation)

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0110-2-1-401	1985 actual	1986 estimate	1987 estimate
Program by Activities:			
10.00 Total obligations	---	---	7,800
Financing:			
40.00 Budget authority (appropriation)	---	---	7,800
Relation of obligations to outlays:			
71.00 Obligations incurred, net	---	---	7,800
90.00 Outlays	---	---	7,800

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

ACTIVITIES TRANSFERRED FROM SALARIES AND EXPENSES INTERSTATE COMMERCE COMMISSION

(Proposed for later transmittal, proposed legislation)

OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-0110-2-1-401	1985 actual	1986 estimate	1987 estimate
Personnel compensation:			
11.1 Full-time permanent	---	---	5,854
11.3 Other than full-time permanent	---	---	96
11.5 Other personnel compensation	---	---	83
11.9 Total personnel compensation	---	---	6,033
12.1 Personnel benefits: Civilian	---	---	680
13.0 Benefits to former personnel	---	---	122
21.0 Traval and transportation of persons	---	---	140
23.1 Standard level user charges	---	---	384
23.3 Communications, utilities, and miscellaneous charges	---	---	150
24.0 Printing and reproduction	---	---	46
25.0 Other services	---	---	170
26.0 Supplies and materials	---	---	33
31.0 Equipment	---	---	42
99.9 Total obligations	---	---	7,800

Personnel Summary

Total number of full-time permanent positions	---	---	160
Total compensable workyears:			
Full-time equivalent employment	---	---	155
Full-time equivalent of overtime and holdiay hours	---	---	---

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

ACTIVITIES TRANSFERRED FROM PAYMENTS FOR DIRECTED RAIL SERVICE, INTERSTATE COMMERCE COMMISSION

The Directed Rail Service Program reimburses railroads for the costs of services provided over the track of a railroad which ceased operations, at the direction of the Federal Government. Legislation will be proposed to sunset the Interstate Commerce Commission at the end of 1986 and transfer this activity to the Department of Transportation.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

ACTIVITIES TRANSFERRED FROM PAYMENTS FOR DIRECTED RAIL SERVICE, INTERSTATE COMMERCE COMMISSION

(Proposed for later transmittal, proposed legislation)

PROGRAM AND FINANCING (in thousands of dollars)

Identification code 69-0111-2-1-401	1985 actual	1986 estimate	1987 estimate
Financing:			
22.40 Unobligated balance transferred, net	---	---	53
24.40 Unobligated balance available, end of year	---	---	-53
39.00 Budget authority	---	---	---
Relation of obligations to outlays:			
71.00 Obligaions incurred, net	---	---	---
90.00 Outlays	---	---	---

U.S. Department of
Transportation

BUDGET ESTIMATES

FISCAL YEAR 1987

URBAN MASS TRANSPORTATION ADMINISTRATION

SUBMITTED FOR USE OF
THE COMMITTEES ON APPROPRIATIONS

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
BUDGET ESTIMATES - FISCAL YEAR 1987
SUBMISSION TO CONGRESS

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URBAN MASS TRANSPORTATION ADMINISTRATION

In FY 1987, a total of $1.22 billion is requested for the various programs administered by the Urban Mass Transportation Administration (UMTA). The entire FY 1987 appropriation will be funded from one cent of the Federal tax on highway motor fuels, consistent with this Administration's goal of funding the bulk of Federal transportation assistance through user fees. The FY 1987 program will continue to finance capital replacement and rehabilitation projects and support transit capital improvement projects. Certain currently available funding, from FY 1984, FY 1985 and FY 1986 for new start projects will be proposed for rescission. Also, effective in FY 1987, Federal funding for transit operating assistance will only be available to small cities and rural areas.

The underlying policy principle in the development of this proposed budget is that greater funding at the local level and greater participation by the private sector can and will reduce public costs in providing for the mass transportation needs of American citizens. Direct private investment or public and private joint ventures in capital infrastructure development, including new rail systems, rail extensions, and station modernization, will greatly reduce reliance on Federal capital assistance. Also, the introduction of greater competition through competitive bidding of service and maintenance will significantly reduce transit operating costs and the need for Federal subsidies.

Highlights on UMTA's budget request include:

-- $1.22 billion Transportation Block Grants--Transit, including $1.1 billion for the portion of the new block grant funded from the Mass Transit Account of the Highway Trust Fund. These funds will be distributed to the States and local agencies on the basis of legislative formulas. For the first time, State and local agencies will be able to combine funding under this formula program with up to $2.2 billion in highway funding to pay for either highway or transit projects. Small cities (areas under 200,000 thousand) will still be able to obligate funding for operating assistance, subject to operating assistance caps, that will be consistent with existing legislation. Rural areas (under 50,000 in population) will continue to be able to obligate at the discretion of the governor the level of funds available in 1985 for operating assistance.

-- Also included within the $1.22 billion total for the new Transportation Block Grants--Transit program are limitations of: $30.5 million for Planning grants; $35 million for Elderly and Handicapped grants; $26.8 million for Administrative Expenses; and $19.5 million for Research, Training and Human Resources.

-- No separate UMTA appropriation is requested for the Interstate Transfer Grants--Transit program. Effective in FY 1987, both transit and highway substitution projects are proposed to be eligible for funding from the Highway Trust Fund, subject to the Federal-Aid Highways obligation limitation.

-- No further funding for the Discretionary Grants program is requested. Resources from the Mass Transit Account of the Highway Trust Fund, which previously funded discretionary grants, will now be used to fund the new Transportation Block Grants--Transit program, described above. Continued Discretionary funding for major new starts can result in the development of inefficient, expensive transit systems, which cost more to build and operate than other available transportation alternatives.

-- Concurrently with this budget submission, we are proposing a 1986 rescission of all existing Discretionary funding for new systems and extensions, except for those few cases where full funding contracts exist. The rescission proposal is for $521 million.

-- For Washington Metro, under the Stark-Harris legislation, no additional Federal funding is requested. The Administration proposes that the Washington Metrorail system be treated as any other new system.

-- In FY 1987, $19.5 million will be made available for the Research, Training, and Human Resources program under the Transportation Block Grants program, described above.

-- Administrative Expenses will be funded at a level of $26.8 million from trust fund resources. Previously, this appropriation has been financed from General funds. This FY 1987 request represents a reduction of 153 positions and 101 Full Time Equivalent (FTE) employment from the FY 1986 levels. Additional reductions are also planned in subsequent years consistent with lower program levels for UMTA.

-- In FY 1987, $1.6 million, derived from UMTA's $26.8 million Administrative Expenses activity, under the Transportation Block Grants--Transit program, will be used to fund the Office of the Secretary's Working Capital Fund.

The following tables summarize the UMTA budget and program levels for FY 1985, FY 1986 and FY 1987:

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
RESOURCE SUMMARY
($ in thousands)

	BUDGET AUTHORITY				
	1985 ACTUAL	1986 ESTIMATE	1986 AFTER SEQUESTERING	1986 ADJUSTED	1987 REQUEST
ADMINISTRATIVE EXPENSES	31,000	30,000	28,710	28,710	0
RESEARCH, TRAINING AND HUMAN RESOURCES	51,000	17,400	16,652	16,652	0
INTERSTATE TRANSFER GRANTS - TRANSIT	250,000	200,000	191,400	191,400	0
WASHINGTON METRO	250,000	227,000	217,239	217,239	0
FORMULA GRANTS	2,449,500	2,150,000	2,057,550	2,057,550	0
MISCELLANEOUS ACCOUNTS	0	0	0	0	0
DISCRETIONARY GRANTS (TRUST FUND)	1,100,000	1,100,000	1,052,700	755,025	0
(OBLIGATION LIMITATION)	(1,120,000)	(1,045,500)	(1,000,543)	(702,868)	0
TRANSPORTATION BLOCK GRANTS-TRANSIT	0	0	0	0	1,220,000
FORMULA GRANTS	0	0	0	0	(1,108,200)
ELDERLY & HANDICAPPED	0	0	0	0	(35,000)
PLANNING	0	0	0	0	(30,500)
RESEARCH & TRAINING	0	0	0	0	(19,500)
ADMINISTRATIVE EXPENSES	0	0	0	0	(26,800)
TOTAL BUDGET AUTHORITY	4,131,500	3,724,400	3,564,251	3,266,576	1,220,000
GENERAL FUND	(3,031,500)	(2,624,400)	(2,511,551)	(2,511,551)	0
TRUST FUND	(1,100,000)	(1,100,000)	(1,052,700)	(755,025)	(1,220,000)
LIQUIDATING CASH APPROPR_ATIONS:					
DISCRETIONARY GRANTS	(450,000)	(775,000)	(775,000)	(775,000)	(950,000)
BLOCK GRANT PROGRAM	0	0	0	0	(264,625)

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
RESOURCE SUMMARY
($ in thousands)

	PROGRAM LEVEL				
	1985 ACTUAL	1986 ESTIMATE	1986 AFTER SEQUESTERING	1986 ADJUSTED	1987 REQUEST
ADMINISTRATIVE EXPENSES	30,354	30,000	28,710	28,710	0
RESEARCH. TRAINING AND HUMAN RESOURCES	24.152	29,281	28,533	28,533	0
INTERSTATE TRANSFER GRANTS - TRANSIT	232,981	220,051	211,451	211,451	101.412
WASHINGTON METRO	58,400	442,600	432.839	432,839	0
FORMULA GRANTS	2,382,946	2,488,299	2,395,849	2,395,849	746.582
MISCELLANEOUS ACCOUNTS	84.728	6,147	6,147	6,147	0
DISCRETIONARY GRANTS (TRUST FUND)	746.117	1,200,300	1,155.343	634.068	404.512
TRANSPORTATION BLOCK GRANTS-TRANSIT	0	0	0	0	1,220,000
FORMULA GRANTS	0	0	0	0	(1,108,200)
ELDERLY & HANDICAPPED	0	0	0	0	(35,000)
PLANNING	0	0	0	0	(30,500)
RESEARCH & TRAINING	0	0	0	0	(19,500)
ADMINISTRATIVE EXPENSES	0	0	0	0	(26,800)
TOTAL OBLIGATIONS	3,559,678	4,416,678	4,258,872	3,737,597	2,472,506
GENERAL FUND	(2,813,561)	(3,216,378)	(3,103,529)	(3,103,529)	(847,994)
TRUST FUND	(746,117)	(1,200,300)	(1,155,343)	(634,068)	(1,624,512)

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
RESOURCE SUMMARY
($ in thousands)

OUTLAYS

	1985 ACTUAL	1986 ESTIMATE	1986 AFTER SEQUESTERING	1986 ADJUSTED	1987 REQUEST
ADMINISTRATIVE EXPENSES	26,312	31,000	29,839	29,839	2,636
RESEARCH, TRAINING AND HUMAN RESOURCES	40,099	26,796	26,609	26,609	15,938
INTERSTATE TRANSFER GRANTS - TRANSIT	461,909	376,593	376,163	376,163	332,650
WASHINGTON METRO	60,156	149,906	149,418	149,418	187,046
FORMULA GRANTS	1,408,600	1,221,500	1,188,659	1,188,659	1,254,860
MISCELLANEOUS ACCOUNTS	852,231	950,000	950,000	950,000	450,000
DISCRETIONARY GRANTS (TRUST FUND)	506,998	778,675	776,150	750,086	792,545
TRANSPORTATION BLOCK GRANTS-TRANSIT	0	0	0	0	264,625
FORMULA GRANTS	0	0	0	0	(164,769)
ELDERLY & HANDICAPPED	0	0	0	0	(35,000)
PLANNING	0	0	0	0	(30,500)
RESEARCH & TRAINING	0	0	0	0	(8,775)
ADMINISTRATIVE EXPENSES	0	0	0	0	(25,339)
TOTAL OUTLAYS	3,356,306	3,534,470	3,496,838	3,470,774	3,300,300
GENERAL FUND	(2,849,307)	(2,755,795)	(2,720,688)	(2,720,688)	(2,243,130)
TRUST FUND	(506,998)	(778,675)	(776,150)	(750,086)	(1,057,170)

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
RESOURCE SUMMARY

Administrative Expenses	STAFFING 1985 Actual	 1986 Estimated	 1987 Request
Full-time equivalent employment subject to ceiling:			
Full-time	478	476	382
Part-time	25	14	7
Total	503	490	389
Full-time equivalent employment non-ceiling:			
Part-time	13	13	13

TITLE III--GENERAL PROVISIONS

[Section 310. Notwithstanding any other provision of law, total amounts of contract authority authorized for fiscal year 1986 in section 21(a)(2)(B) of the Urban Mass Transportation Act of 1964, as amended, shall be available for obligation through fiscal year 1989.]

[Section 317. (a) Section 5(b)(2) of the Urban Mass Transportation Act of 1964 is amended by inserting after the first sentence the following new sentence: "Any funds apportioned for fiscal year 1982 or 1983 under subsection (a) for expenditure in an urbanized area with a population of less than 200,000 may be expended in an urbanized area with a population of 200,000 or more.".]
[(b) Section 5(c)(4) of the Urban Mass Transportation Act of 1964 is amended by striking the period at the end of the first sentence, and inserting the following: "except that any fiscal year 1982 funds made available to a Governor under section 5(b)(2) of the Urban Mass Transportation Act of 1964, as amended, that are unobligated as of October 1, 1985, or become unobligated thereafter, shall remain available for expenditure under section 5 until October 1, 1986.".]

[Section 318. Notwithstanding any other provision of law, within 60 days of the effective date of this Act the Urban Mass Transportation Administration shall reapportion under section 9 of the Urban Mass Transportation Act of 1964, as amended, those funds available for reapportionment pursuant to subsection (c)(4) of section 5 of that Act.]

[Section 319. None of the funds in this or any other Act shall be made available for the proposed Woodward light rail line in the Detroit, Michigan, area until a source of operating funds has been approved in accordance with Michigan law: Provided, That this limitation shall not apply to alternatives analysis studies under section 21(a)(2)(B) of the Urban Mass Transportation Act of 1964, as amended.]

[Section 320. The Secretary of Transportation shall enter into negotiations for full funding contracts with the appropriate local governmental authorities to construct (1) the minimum operable segment, MOS-1, of the downtown Los Angeles to San Fernando Valley Metro Rail project; (2) the north and south legs of the downtown component of metrorail in Dade County, Florida; and (3) the downtown transit project (bus tunnel) in Seattle, Washington: Provided, That the Secretary shall commence negotiations with appropriate local authorities to enter into such contracts no later than 30 days after enactment and shall conclude such negotiations no later than 90 days after enactment: Provided further, That such contracts shall cover total project costs including federal financial participation consisting of fiscal year 1984 and fiscal year 1985 discretionary grants funding made available pursuant to section 331 of this Act, fiscal year 1986 discretionary grants funding in accordance with the accompanying Joint Explanatory Statement of the Managers, and future funding as made available by the Congress.]

[Section 321. The Urban Mass Transportation Administration shall enter into a contract with the Southern California Rapid Transit District to conduct a study of the potential methane gas risks relating to the proposed alignment of the Metro Rail project beyond the Minimum Operable Segment, MOS-1. None of the funds described in section 320 may be made available for any segment of the downtown Los Angeles to San Fernando Valley Metro Rail project unless and until the Southern California Rapid Transit District officially notifies and commits to the Urban Mass Transportation Administration that no part of the Metro Rail project will tunnel into or through any zone designated as a potential risk zone or high potential risk zone in the report of the City of Los Angeles dated June 10, 1985, entitled "Task Force Report on the March 24, 1985 Methane Gas Explosion and Fire in the Fairfax Area". Funds for this study, in an amount not to exceed $1,000,000, shall be made available from funds previously allocated to the MOS-1 project, commencing within 30 days of enactment.]

[Section 322. The limitation on obligations for the Discretionary Grants Program of the Urban Mass Transportation Administration shall not apply to any authority under section 21(a)(2)(B) of the Urban Mass Transportation Act of 1964, as amended, previously made available for obligation.]

[Section 323. (a) Notwithstanding any other provision of law, the Secretary of Transportation may use not to exceed one-half of 1 percent of-

(1) the funds made available for fiscal year 1986 by section 21(a)(2)(B) of the Urban Mass Transportation Act of 1964, as amended, to carry out section 3 of such Act to contract with any person to oversee the construction of any major project under such section;

(2) the funds appropriated for fiscal year 1986 pursuant to section 21(a)(1) of the Urban Mass Transportation Act of 1964, as amended, to carry out section 9 of such Act to contract with any person to oversee the construction of any major project under such section;

(3) the funds appropriated for fiscal year 1986 pursuant to section 21(a)(1) of the Urban Mass Transportation Act of 1964, as amended, to carry out section 18 of such Act to contract with any person to oversee the construction of any major project under such section;

(4) the funds appropriated for fiscal year 1986 pursuant to section 4(g) of the Urban Mass Transportation Act of 1964, as amended, to contract with any person to oversee the construction of any major public transportation project substituted for an Interstate segment withdrawn under section 103(e)(4) of title 23, United States Code; and

(5) the funds appropriated for fiscal year 1986 pursuant to the National Capital Transportation Act of 1969 to contract with any person to oversee the construction of any major project under such Act.]

[(b) Any contract entered into under subsection (a) shall provide for the payment by the Secretary of Transportation of 100 percent of the cost of carrying out the contract.]

[(c) This section shall take effect on October 1, 1985, and shall cease to be in effect at the close of September 30, 1986.]

[Section 326. Section 18(e) of the Urban Mass Transportation Act of 1964 is amended by adding at the end thereof the following: "For the purpose of this subsection, the term 'Federal funds or revenues' does not include funds received by a recipient of funds under this section pursuant to a service agreement with a State or local social service agency or a private service organization.".]

[Section 330. Notwithstanding any other provision of law, none of the funds in this Act shall be available for the construction of the Central Automated Transit System (Downtown People Mover) in Detroit, Michigan: Provided, That the immediately preceding provision shall not apply to $10,000,000 apportioned to the Detroit Department of Transportation.]

[Section 331. The Congress disapproves the proposed deferral D86-21, pertaining to the Urban Mass Transportation Administration, as set forth in the message of October 1, 1985, which was transmitted to the Congress by the President. This disapproval shall be effective upon enactment into law of this Act and the amount of the proposed deferral disapproved herein shall be made available for obligation.]

[Section 335. Notwithstanding any provision of law or regulation, the Secretary of Transportation shall, within 30 days after enactment of this section, issue in the Federal Register a Notice of Intent to prepare an environmental impact statement for the construction of the north and south legs of the downtown component of metrorail in Dade County, Florida: Provided, That the absence of a federally-approved environmental impact statement for this project shall not preclude or delay the negotiations required under section 320 of this Act.]

APPROPRIATION LANGUAGE
[ADMINISTRATIVE EXPENSES]

[For necessary administrative expenses of the urban mass transportation program authorized by the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1601 et seq.), and 23 U.S.C. chapter 1, in connection with these activities, including hire of passenger motor vehicles and services as authorized by 5 U.S.C. 3109, $30,000,000, of which not to exceed $650,000 shall be available for the Office of the Administrator.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

ADMINISTRATIVE EXPENSES

Identification code 69-1120-0-1-401	1985 actual	1986 estimate	1987 estimate
Program by activities:			
10.00 Total Obligations..................	30,354	30,000	...
Financing:			
21.40 Unobligated balance available, start of year......................	-457	-121	...
24.40 Unobligated balance available, end of year........................	121	...	...
25.00 Unobligated balance lapsing.......	982	121	...
40.00 Current authority (Appropriation).	31,000	30,000	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	30,354	30,000	...
72.40 Obligated balance, start of year	57	3,735	2,765
74.40 Obligated balance, end of year	-3,765	-2,765	...
77.00 Adjustments in expired accounts	-334	...	...
90.00 Outlays	26,312	31,000	2,765
Total		1,182,000	

Note: Excludes $26,800 thousand in 1987 for activities transferred to Transportation Block Grants -- Transit (Trust Fund).

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	31,000	30,000	
Outlays	23,312	31,000	2,765
Reduction pursuant to P.L. 99-177:			
Budget authority		-1,290	
Outlays		-1,161	-129
Total:			
Budget authority	31,000	28,710	
Outlays	26,312	29,839	2,636

PROGRAM AND PERFORMANCE STATEMENT

ADMINISTRATIVE EXPENSES

Through 1986, this appropriation finances, with general revenues from the Treasury, personnel and other support costs associated with managing and directing UMTA program responsibilities including executive direction, policy, budget, financial management, civil rights, public affairs, legal, grants delivery and management, technical assistance, and research and demonstration support. No appropriation is requested from general funds in 1987 to fund this program. Rather in 1987, it is proposed that funds from the Mass Transit Account of the Highway Trust Fund be made available to finance this program. This proposal is further explained under the account heading Transportation Block Grants--Transit (Trust Fund).

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
FY 1987 ADMINISTRATIVE EXPENSES BUDGET
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-1120-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Personnel Compensation:			
11.1 Full-time permanent.......	18,527	17,498	...
11.3 Other than full-time permanent..............	919	816	...
11.5 Other personnel compensation	205	280	...
11.9 Total personnel compensation	19,651	18,594	...
12.1 Personnel Benefits: Civilian.................	2,131	2,228	...
13.0 Benefits for former personnel...............	22	10	...
21.0 Travel and transportation of persons..............	601	656	...
22.0 Transportation of things..	30	35	...
23.1 Standard level user changes.................	1,798	1,862	...
23.2 Rental payments to others.	58	58	...
23.30 Communications & utilities and miscellaneous changes	1,092	1,055	...
24.0 Printing and reproduction.	178	190	...
25.0 Other services...........	3,404	4,620	...
26.0 Supplies and materials....	129	138	...
31.0 Equipment.................	1,255	554	...
42.0 Insurance claims and indemnities.............	2	0	...
43.0 Interest and dividends....	3	0	...
99.0 Total obligations.........	30,354	30,000	...
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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
ADMINISTRATIVE EXPENSES
PERSONNEL SUMMARY

Identification code 69-1120-0-1-401	1985 actual	1986 estimate	1987 estimate
Total number of full-time permanent positions	522	496	...
Total compensable workyears:			
Full-time equivalent employment	516	503	...
Full-time equivalent of overtime and holiday hours	3	5	...

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STANDARD FORM 300
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

ADMINISTRATIVE EXPENSES

Identification code 69-1120-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
10.00 Total Obligations.................	...	-1,280	...
40.00 Budget authority [Appropriation]..	...	-1,280	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	...	-1,280	...
72.40 Obligated balance, start of year	...	...	-128
74.40 Obligated balance, end of year	...	128	...
90.00 Outlays	...	-1,181	-128

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
ADMINISTRATIVE EXPENSES

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Enacted	FY 1986 Available After Sequestering	FY 1987 Request
Appropriation (Gen. Fund)	$31,000	$30,000	$28,710	--
Trust Fund	--	--	--	($26,800)*

Objectives

The Administrative Expenses appropriation funds the personnel and other support costs for managing all UMTA program responsibilities. The Administrative Expenses budget will be authorized as a takedown from the Mass Transit Account of the Highway Trust Fund under Section 308 of the proposed Surface Transportation Reauthorization Act of 1986. Sufficient resources are needed to accomplish the following:

-- timely and efficient delivery of formula-based funds; and other non-formula funds for planning, elderly and handicapped and technical assistance;

-- oversight and necessary actions to administer all active grants;

-- development and implementation of the research, training, and human resources programs;

-- development of technical information and provision of technical assistance and support to the transit industry;

-- acquisition, development, housing, and support for the staff necessary to accomplish the numerous and various program activities; and

-- continuation of implementation of the Office Automation project and new Grants Management Information and Financial Management Systems (GMIS/FMS)

Staffing and Program Management

UMTA's FY 1987 request for Administrative Expenses totals $26,800 thousand and contains a request for 343 Full-Time Permanent (FTP) positions and 389 Full-Time Equivalent (FTE) employment. This is a reduction of 153 FTP positions and 101 FTE.

*Takedown from Transportation Block Grants -- Transit.

This reduction in staffing is being phased in now to permit a more orderly transition to a substantially reduced organizational structure in later years.

With the emphasis and direction pointed to the Transportation Block Grant--Transit program, UMTA has the opportunity to substantially reduce the staff workload, primarily in the area of pre-award activities. Under the new legislation proposed by UMTA, after submission of a streamlined set of assurances by the State, funds will be automatically obligated when apportioned, although outlays will follow traditional patterns (i.e. 15% in the first year, etc.) Assurances include the intent to comply with the competitive service requirements of proposed Section 9B, and the reporting requirements of existing Section 15. Thus, adoption of our legislative proposal, particularly the assurance procedures, will simplify enforcement of the various Federal requirements and streamline the flow of funds, thereby reducing the staff required to carry out the UMTA program.

Major changes included under the FY 1987 Administrative Expenses request include severance payments, unemployment compensation, and related administrative costs to conduct a reduction-in-force. Also, there are corresponding salaries and benefits savings associated with the reduction-in-force.

Funding Request

The following table summarizes the Administrative Expenses budget request by major object class:

Administrative Expenses (Obligations)
Major Object Classes
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Available After Sequestering	FY 1987 Request
Personnel Compensation.........	$ 19,651	$ 17,988	$ 15,107
Personnel Benefits.............	2,131	2,155	1,875
Benefits for Former Personnel..	22	10	2,151
Travel of Persons..............	601	673	672
Transportation of Things.......	30	35	7
Standard Level User Charges....	1,856	1,920	1,234
Other Rent, Comm. & Utilities..	1,092	1,055	804
(DOT/Working Cap. Fund (WCF)	<10>	<10>	<12>
Printing and Reproduction......	178	190	199
(DOT/WCF Charges)............	<173>	<185>	<190>
Other Services.................	3,404	4,342	4,117
(DOT/WCF Charges)............	<1,201>	<1,391>	<1,416>
Supplies and Materials.........	129	138	120
Equipment......................	1,255	204	514
Insurance......................	5	-0-	-0-
Total..................	$ 30,354	$ 28,710	$ 26,800
(Total DOT/WCF Charges)	$ < 1,384>	$ < 1,586>	$ < 1,618

Analysis of Changes

An analysis of mandatory changes, price adjustments and program decreases between FY 1986 and FY 1987 is presented in the following table:

Analysis of Changes from FY 1986 to FY 1987
(Dollars in Thousands)

FY 1986 Appropriation after sequestering (Estimated Obligations)		$ 28,710
Plus:		
Mandatories and Price Adjustments		
Within-grade Increases	$+282	
Projected Inflation	+915	
Sub-total		$ +1,197
Adjusted Base for FY 1986 reflecting Mandatories and Price Adjustments		$ 29,907
Program Decreases/Increases		
101 FTE Reduction		
Salary/Benefits Savings	$-3,450	
Other Non-Salary Benefits Savings	-2,149	
Office Automation Equipment	+300	
Reduction-in-Force Costs	+2,192	
Sub-Total		$ -3,107
Total FY 1987 Request		$ 26,800

EXPLANATION OF CHANGES AND ADJUSTMENTS:

Mandatories and Price Adjustments

Within-grade Increases $ +282

Within-grade increases (WIGs) are mandatory expenses that must be paid to those employees who have maintained a satisfactory or better performance rating and spent the required time at their current step-in-grade. The part of merit pay increases equivalent to WIGs for the Performance Management and Recognition System employees is also included.

EXPLANATION OF CHANGES AND ADJUSTMENTS:

Mandatories and Price Adjustments (continued)

Projected Inflation

$ +915

This amount reflects a projected inflation factor of approximately 5 percent over FY 1986 to cover anticipated escalation in operating costs for all non-salary expenses except SLUC, and ADP Contract Support Services.

Program Increases/Decreases

101 FTE Reduction (Salary/Benefits Savings)

$-3,450

This amount reflects the savings in personnel compensation, and benefits as a result of the proposed staff reductions of projected on-board persons to meet the targeted FTE level.

101 FTE Reduction (Other Non, Salary/Benefits Savings)

$-2,149

This amount reflects savings in communications and other contractual services including telephone, mail, equipment/space rental, computer, timesharing and other costs related to a reduction in staffing.

Office Automation Equipment

$+300

The increase reflects the funds necessary to complete the basic equipment purchase for office automation. The purchase of equipment was deferred in FY 1986 due to Gramm-Rudman sequestration.

RIF Costs

$+2,192

This amount represents the costs that must be incurred in involuntarily separating staff to reach the targeted employment levels. Costs include lump sum severance payments, unemployment compensation and related administrative costs to conduct the reduction-in-force process.

APPROPRIATION LANGUAGE
[RESEARCH, TRAINING AND HUMAN RESOURCES]

[For necessary expenses for research, training, and human resources as authorized by the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1601 et seq.), to remain available until expended, $17,400,000: Provided, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities and private sources, for expenses incurred for training.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

RESEARCH, TRAINING, AND HUMAN RESOURCES

Identification code [illegible]-1121-0-1-401	1985 actual	1986 estimate	1987 estimate
Program by activities:			
00.01 Direct program	24,152	29,281	...
11.01 Reimbursable program	290	500	...
10.00 Total obligations	24,442	29,781	...
Financing:			
14.00 Offsetting collections from Non-Federal sources	-290	-500	...
17.00 Recovery of prior year obligations	-533	...	...
21.40 Unobligated balance available, start of year	-24,537	-50,381	...
22.40 Unobligated balance transferred, net	1,000	39,100	...
24.40 Unobligated balance available, end of year	50,381	...	...
40.00 Budget authority (Appropriation)	51,000	17,400	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net	24,152	29,231	...
72.10 Obligated balance, start of year	71,223	54,740	57,225
74.40 Obligated balance, end of year	-54,740	-57,225	-40,950
78.00 Adjustments in unexpired accounts	-536	...	...
90.00 Outlays	40,099	26,796	16,275

Note: Excludes $19,500 thousand in 1987 for activities transferred to Transportation Block Grants--Transit (Trust Fund).

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	51,000	17,400	
Outlays	40,099	26,796	16,275
Reduction pursuant to P.L. 99-177:			
Budget authority		-748	
Outlays		-187	-337
Total:			
Budget authority	51,000	16,652	
Outlays	40,099	26,609	15,938

PROGRAM AND PERFORMANCE STATEMENT
RESEARCH, TRAINING AND HUMAN RESOURCES

Through 1986 this appropriation finances, with general revenues from the Treasury, grants and contracts for the purpose of developing, testing, and demonstrating techniques and methods (analytical, operational, and managerial); improving the cost effectiveness and efficiency of mass transportation services; grants to public bodies to provide for advanced training for personnel in the mass transportation field; and grants to public and private nonprofit institutions to assist in establishing or continuing programs which combine professional training and research in the field of mass transportation. In addition, grants are provided to enhance the effective utilization of human resources and to ensure the participation of minority business enterprises in the transit industry. In 1987, it is proposed that funds from the Mass Transit Account of the Highway Trust Fund be made available to finance this program. It will be subject to the obligation limitation for the New Transportation Block Grants--Transit program.

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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
RESEARCH, TRAINING AND HUMAN RESOURCES
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-1121-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Direct Obligations:			
25.0 Other services............	15,643	18,740	...
41.0 Grants, subsidies, and contributions............	8,509	10,541	...
99.0 Subtotal, Direct obligations........	24,152	29,281	...
99.0 Reimbursable obligations..	290	500	...
99.99 Total obligations.........	24,442	29,781	...

STANDARD FORM 300

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

RESEARCH, TRAINING, AND HUMAN RESOURCES

Identification code 69-1121-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
10.00 Total Obligations................	...	-748	...
40.00 Budget authority (Appropriation)..	...	-748	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	...	-748	...
72.40 Obligated balance, start of year	...	...	-561
74.40 Obligated balance, end of year	...	561	224
80.00 Outlays	...	-187	-337

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

RESEARCH, TRAINING AND HUMAN RESOURCES

Comparative Summary
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Enacted	FY 1986 After Sequestering	FY 1987 Request
Appropriation General Funds	$51,000	$17,400	$16,652	...
Transfers Out From Unobligated Balances (BOY)	(-1,000)	(-39,100)	(-39,100)	...
Trust Fund	...	...	...	(19,500)*

Introduction

UMTA's Research, Training and Human Resources Program is authorized by Sections 6, 10, 11, 15, 20 and 22 of the Urban Mass Transportation Act of 1964, as amended. Under Section 6, the Department may undertake research, development, and demonstration projects, including efforts to improve mass transportation service and to contribute toward meeting total urban transportation needs at minimum cost. Section 10 authorizes the Department to provide training for managerial, technical, professional and supervisory personnel in the mass transit industry. Section 11 authorizes the Department to undertake a university research program. Section 15 requires the Department to establish a reporting system for the collection and dissemination of public transportation financial and operating data using a uniform system of accounts and records. Section 20 authorizes the Department to undertake and fund national and local human resource projects. Section 22 authorizes the Department to conduct safety investigations. Activities undertaken under Sections 15 and 22 are funded under Section 6.

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* Take-down from the Transportation Block Grants -- Transit Program in FY 1987.

Fifty-one ($51) million dollars was appropriated for this account in FY 1985. In addition there was $24.6 million of unobligated balances available, of which $1 million was transferred to the National Highway Traffic Safety Administration as provided in P.L. 98-473. This amount was transferred from the Section 6 Technical Assistance activity. In FY 1985, $24.15 million was obligated in the Research, Training and Human Resources programs.

For FY 1986, $17.4 million was appropriated to carry out the Research, Training and Human Resources Program account. This amount will be reduced to $16.652 million after sequestering. In FY 1986, Congress directed that $39.1 million of the $51 million of prior years unobligated balances be transferred and made available to other appropriations as provided in H.R. 99-450. This transfer of funds is made up of the following items: $5.0 million to FHWA for access highways to public recreation areas on certain lakes; $4.0 million to FHWA for a rail line consolidation project; $1.35 million to FHWA for an airport - highway demonstration project; $5.0 million to NHTSA, for expenses necessary to discharge highway safety functions; $5.0 million to the Southeastern Pennsylvania Transportation Authority (SEPTA) for Conrail commuter transition assistance; and $18.75 million to the UMTA Interstate Transfer Account. After these transfers, $11.9 million in prior years unobligated balances remains to be used in FY 1986.

For FY 1987, an appropriation of $19.5 million is requested for the Research, Training and Human Resources programs. Limited program funds will again be used for direct programmatic support of the Technical Assistance activities, covering such costs as publications and equipment.

TECHNICAL ASSISTANCE (SECTION 6)

The Technical Assistance activity works to improve the capacity of transit industry operating officials to plan, design, finance, manage and operate their systems more cost-effectively and safely; to increase the performance capabilities of managerial, technical and supervisory personnel in the transit industry; and to enhance effective utilization of human resources in the transit industry. Technical Assistance projects develop, test and demonstrate innovative technologies, service concepts, management techniques and analytic tools to reduce transit authorities' dependence on the Federal Government for financing the design, construction, operation and maintenance of transit enterprises. Technical Assistance projects are developed in consultation with the transit industry. The results are made available to transit operators and the public through a variety of traditional and innovative methods and contribute to better design, construction, procurement of hardware and equipment, operations and maintenance and the financing of public transportation. The exchange of information at the transit operator level is actively promoted as well. In addition, through the collection, aggregation and dissemination of statistics on the operation of transit systems nationwide required by Section 15 of the UMT Act, as amended, UMTA provides an improved basis for critical decision-making on both a national and local level. Also, research projects are initiated to support policy development and monitoring and to assure compliance with applicable statutory and administrative civil rights requirements regarding DBE/WBE participation, EEO, equity of service, etc., at minimal burden to grantees.

UMTA is currently undergoing a major re-evaluation and restructuring of its Technical Assistance activity. The goal of this effort is to build a program which is more focused, more easily managed, and more responsive to the goals of this Administration. As a result of this effort, four lead programs have been established which cut across traditional Technical Assistance subactivities to focus emphasis on and coordinate these specific activities. These Lead Programs are: Safety and Security; Minimization Of Federal Presence; Financial Reform; and National Leadership. These lead programs support the Administration's and the Secretary's continuing goals of increasing private sector participation in the provision of transit, reducing the dependence of public transit on Federal Government financing and assistance, returning decision-making to State and local authorities, improving local financial management and enhancing the safety and security of transit passengers and personnel.

MANAGERIAL TRAINING (SECTION 10)

The UMTA Managerial Training Program is authorized by Section 10 of the UMT Act. This program seeks to improve the performance of managerial, supervisory and technical personnel in the transit industry and related planning organizations by providing training in modern management practices. The development of Lead Programs designed to structure and prioritize the Section 6 Technical Assistance Program has led to a review of the associated role of the Section 10 Program. Through an analysis of Section 10 Program strengths and weaknesses and an evaluation of the nature of training activities associated with the information dissemination element of each Lead Program, a redirection of the Section 10 Program is being implemented. Improved program efficiency is an important part of the current evaluation plan. The success of single agency grants, and cost sharing policies recently inaugurated will serve as the basis for further refining management practices and improving program benefits.

UNIVERSITY RESEARCH AND TRAINING (SECTION 11)

The UMTA University Research and Training Program is authorized by Section 11 of the UMT Act. The program consists of three major components: (1) an annual competition for a limited number of research grant awards; (2) the University Centers for Transit Research and Management Development; and (3) an annual Summer Faculty Workshop (SFW) for Minority Institution Faculty. The annual competition utilizes and strengthens the capabilities of the academic community by supporting research in areas relevant to the needs of the transit industry and which support UMTA's policy and programmatic objectives. A corollary objective is to attract more of the Nation's talented graduates into the field of transportation. The Centers initiative fosters local community involvement in transit-related issues and offers public transportation providers a readily available resource to upgrade the management capabilities of transit professionals. The SFW has been responsible for the introduction of larger numbers of minority institution faculty and students into industry related activities.

HUMAN RESOURCES (SECTION 20)

Section 20 of the UMT Act authorizes projects that "address human resources needs as they apply to public transportation activities." Under the Human Resources Program, UMTA has committed a total of $3 million to collateralize the Demonstration Bonding program. In FY 1987, UMTA anticipates developing projects for funding at both the regional and national levels in each of the major emphasis areas which continue to structure the program. These are: DBE/WBE Management and Technical Assistance, Opportunities for Minorities and Women, and Training and Labor Relations. Emphasis will be given to DBE/WBE Management and Technical Assistance Projects. Some national projects will be managed by Headquarters. UMTA generally funds 75 percent of project cost in grants to operators, administratively requiring a 25 percent local share. A large proportion of approved project tasks are undertaken by contractors which are locally selected in accordance with Federal requirements.

APPROPRIATION LANGUAGE

[Interstate Transfer Grants--Transit]
[including Transfer of Funds]

[For necessary expenses to carry out the provisions of 23 U.S.C. 103(e)(4) related to transit projects, to remain available until September 30, 1987, $218,750,000, of which $18,750,000 shall be derived from unobligated balances of "Research, training, and human resources".] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
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300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

INTERSTATE TRANSFER GRANTS -TRANSIT

Identification code 69-1127-0-1-401	19 75 actual	19 76 estimate	19 77 estimate
Program by activities:			
10.00 Total Obligations (Object class 41.00).............	232,951	220,051	101,412
Financing:			
17.00 Recovery of prior year obligations	-12	...	...
21.40 Unobligated balance available, start of year....................	-35,682	-102,713	-101,412
22.40 Unobligated balance transfered,net	...	-19,750	...
24.40 Unobligated balance available, end of year.....................	102,713	101,412	...
25.00 Unobligated balance lapsing.......	...	...	...
40.00 Budget authority (Appropriation)..	250,000	200,000	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	232,951	220,051	101,412
72.40 Obligated balance, start of year	1,026,730	787,790	641,240
74.40 Obligated balance, end of year	-787,790	-641,240	-408,280
77.00 Adjustments in unexpired accounts.	-12	...	...
90.00 Outlays..........................	471,909	373,593	334,372

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SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	250,000	200,000	
Outlays	461,909	376,593	334,370
Reduction pursuant to P.L. 99-177:			
Budget authority		-8,600	
Outlays		-430	-1,720
Total:			
Budget authority	250,000	191,400	
Outlays	461,909	376,163	332,650

PROGRAM AND PERFORMANCE STATEMENT
INTERSTATE TRANSFER GRANTS--TRANSIT

Grants under this activity are authorized by the Federal-Aid Highway Act of 1973 as amended (23 U.S.C. 103(e)(4)) whereby States and localities may withdraw previously approved segments of the Interstate System and substitute transit or other highway capital projects. Through 1986, this appropriation provided funding for substituted transit projects while funding for substituted highway projects was included in the budget of the Federal Highway Administration. Beginning in 1987, no funding is requested under this account. Eligible substituted transit project commitments are proposed to be funded through the Interstate Transfer program under the Federal-Aid Highways Account (Trust Fund), administered by the Federal Highway Administration.

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300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

INTERSTATE TRANSFER GRANTS

Identification code 69-1127-5-1-401	19 85 actual	19 85 estimate	19 87 estimate
Program by activities:			
10.00 Total Obligations (Object class 41.00)............	...	-8,600	...
Financing:			
40.00 Current authority (Appropriation)	...	-8,600	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net........	...	-8,600	...
72.40 Obligated balance, start of year Appropriation....................	...	...	-8,170
74.40 Obligated balance, end of year Appropriation....................	...	8,170	6,450
90.00 Outlays..........................	...	-430	-1,720

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

INTERSTATE TRANSFER GRANTS - TRANSIT

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Estimate	FY 1986 after Sequestering	FY 1987 Request
Appropriation	$250,000	$200,000	$191,400	...
(Transfer)	...	+18,750	+18,750	...

The Interstate Transfer Grants program provides Federal financing to allow States and localities to withdraw nonessential Interstate segments and substitute public transportation improvements under the provisions of 23 U.S.C. 103(e)(4).

For FY 1987, no appropriation is requested for the implementation of transit projects under UMTA's Interstate Transfer Grants - Transit heading. It is proposed that existing entitlements should be eligible for rail transit extension, new start, rail modernization or bus projects under the Interstate Transfer authorization in the Federal Aid Highways account along with highway projects. This authorization is subject to the obligation limitation on the Federal-Aid Highways account. The main purpose of this action is to fund both mass transit and highway substitute projects from the Highway Trust Fund from which the withdrawn Interstate Highway segments would have been otherwise funded with user fees.

APPROPRIATION LANGUAGE

WASHINGTON METRO

[For necessary expenses to carry out the provisions of section 14 of Public Law 96-184, $227,000,000, to remain available until expended.] (Department of Transportation and Related Agencies Appropriation Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
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300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

WASHINGTON METRO

Identification code 69-1120-0-1-401	19 75 actual	19 76 estimate	19 7T estimate
Program by activities:			
10.00 Total Obligations (Object class 41.00)	58,400	442,600	...
Financing:			
21.40 Unobligated balance available, start of year	-24,000	-215,600	...
24.40 Unobligated balance available, end of year	215,600	...	...
40.00 Budget authority (Appropriation)	250,000	227,000	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net	58,400	442,500	...
72.40 Obligated balance, start of year	402,400	400,733	693,427
74.40 Obligated balance, end of year	-400,733	-693,427	-504,429
90.00 Outlays	60,153	148,806	188,998
(Memo cost: 35.0)	(Memo cost: 0)	(Memo cost: 0)	(Memo cost: 4.8)

GPO : 1971 O - 440-317

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	250,000	227,000	______
Outlays	60,156	149,906	188,998
Reduction pursuant to P.L. 99-177:			
Budget authority	______	-9,761	______
Outlays	______	-488	-1,952
Total:			
Budget authority	250,000	217,239	______
Outlays	60,156	149,418	187,046

PROGRAM AND PERFORMANCE STATEMENT

WASHINGTON METRO

The National Capital Transportation Amendments of 1979 authorized $1.7 billion in Federal funds for the construction of the Washington Metrorail system. It is the Administration's position that the Washington Metrorail system should be treated as other "New Start" projects. Since all other "New Start" funding is proposed to be terminated, it would be inequitable to continue funding The Washington Metrorail System. Therefore, no appropriation is requested for 1987. The Washington Metropolitan Area Transit Authority needs to initiate a dedicated source of local funding to become independent of Federal funding.

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

WASHINGTON METRO

69-1128-6-1-401	85	86	87
Program by activities:			
10.00 Total Obligations (Object class 41.00).............	...	-9,761	...
Financing:			
40.00 Budget authority (Appropriation)..	...	-9,761	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	...	-9,761	...
72.40 Obligated balance, start of year	...	...	-9,273
74.40 Obligated balance, end of year	...	9,273	7,321
90.00 Outlays	...	-488	-1,952

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

WASHINGTON METRO

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Estimate	FY 1986 after Sequestering	FY 1987 Request
Appropriation	$250,000	$227,000	$217,239	...

Public Law 96-184 (Stark-Harris legislation) enacted January 3, 1980, authorized a total of $1.7 billion for construction on the Washington Metrorail System starting in FY 1982. It also authorized additional Federal participation in the retirement of bonds issued by WMATA. The Stark-Harris funds were intended to supplement and ultimately supplant funding from the Interstate Transfer Grants - Transit program. President Carter, in 1979, predicated his public endorsement on the assurance that Stark-Harris funds were all that would be needed to complete the system: "The Federal government has now placed its total monetary commitment to Metro on the table."

For FY 87, UMTA is proposing no new funding under the Stark-Harris authorization. WMATA has received more Federal construction dollars than all other new systems combined since 1970. The Department's proposal to discontinue funding for other new start systems requires that the Department propose no new funding under Stark-Harris for FY 87.

The Department is administering the project according to the following guidelines:

1. Will only fund construction for parts of the system which constitute operable segments;
2. Will only approve funding requests for those segments for which there are sufficient funds available to complete;
3. Oppose any proposals for additional authorizations beyond Stark-Harris;
4. Attempt to have WMATA recapture at least part of the value generated for private businesses by Metrorail construction; and
5. Attempt to increase the local share of costs of construction on all remaining grants from the Stark-Harris authorization.

As of the end of FY 1985, a total of $5.9 billion of capital had been invested in the WMATA rail system, with $3.9 billion from Federal funds. An additional $51.7 million per year in Federal assistance is provided to Washington Metro under the appropriation "Washington Metropolitan Area Transit Authority- Interest Payments." The $51.7 million paid to Washington Metro each year represents the two-thirds Federal share of interest payments on $997 million in bonds that become due beginning in the year 2012. At that time, the Federal Government is further committed to pay the two-thirds of the principal on those bonds or another $665 million.

Table 1 shows that the Federal cost to construct the full 103-mile Washington Metro system could well exceed $9 billion assuming the same level of Federal participation as in the past. This figure is particularly noticeable in view of the fact that only $3.9 billion in Federal funds has been expended through FY 1985, or less than one half of the total cost that WMATA is seeking from the Federal government. As it now stands, the Federal government is committed to spending $6.9 billion on the Metrorail system even with no further appropriation in FY 1987 (funds appropriated to date plus the outstanding obligations on the bonds). The total cost for the full system, using WMATA's estimates, currently exceeds $12.5 billion.

Table 1:

Federal Funds for the Construction of the Washington Metropolitan Area Transit Authority (WMATA) Subway System
(dollars in millions)

Funds Appropriated thru FY 1986:		
Direct Appropriations Before Stark-Harris	1,147.0	
Elderly and Handicapped Facilities	52.0	
Arlington Cemetery Station Add-on	7.4	
Federal-Aid Urban Systems Funds	28.5	
Interstate Transfers - Transit	2,155.7	
Interest Payments on Guaranteed Bonds	509	
Stark-Harris Authorization ($1.7B)	957.2	
TOTAL, FUNDS APPROPRIATED	4,856.4	
Funds Not Yet Appropriated, But Needed to Meet Current Federal Obligations:		
Interest Payments on Guaranteed Bonds	1,421.1	est.
Principal Payment on Guaranteed Bonds	664.7	
TOTAL, ADDITIONAL FUNDS NEEDED TO MEET CURRENT FEDERAL OBLIGATIONS	2,085.8	
Funds Not Yet Appropriated, But Needed to Complete 103-mile System:		
Remaining Stark-Harris Authorization ($1.7B)	742.8	
New Authorization Required (WMATA estimate)	1,620.8	(a)
TOTAL, ADDITIONAL FEDERAL FUNDS NEEDED TO COMPLETE 103-MILE SYSTEM:	2,363.6	
TOTAL FEDERAL COST	9,305.8	
Local Funds		
Principal Payment on Guaranteed Bonds	332.4	
Interest Payments on Guaranteed Bonds	710.6	est.
Matching Payments for Federal Funds	2,144.4	est.
Matching Bond Sales	48.5	
TOTAL LOCAL FUNDS	3,235.9	
ESTIMATED GRAND TOTAL SYSTEM COST	12,541.7	

(a) WMATA estimates that another $2.026 billion is needed to complete the full 103-mile system and that estimate includes the Branch Avenue realignment/extension. Absent additional local funding, it has been assumed that the present 80/20 matching ratio is maintained for purposes of calculating future Federal liability.

APPROPRIATION LANGUAGE

[Formula Grants]

[For necessary expenses to carry out the provisions of sections 9 and 18 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1601 et seq.) $2,150,000,000, to remain available until expended.] (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

FORMULA GRANTS

Identification code 69-1129-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
00.01 Urban Formula Grants	2,282,477	2,417,298	723,319
00.02 Non-Urban Formula Grants	100,469	71,000	23,263
10.00 Total obligations (Object class 41.00).............	2,382,946	2,488,298	746,582
Financing:			
17.00 Recovery of prior year obligations	-66,147	...	...
21.40 Unobligated balance available, start of year.....................	-962,224	-1,084,881	-746,582
24.40 Unobligated balance available, end of year......................	1,084,881	746,582	...
25.00 Unobligated balance lapsing......	10,044	...	...
40.00 Budget authority (Appropriation)..	2,449,500	2,150,000	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	2,382,946	2,488,299	746,582
72.40 Obligated balance, start of year	2,763,734	3,671,658	4,938,457
74.40 Obligated balance, end of year	-3,671,658	-4,938,457	-4,407,956
77.00 Adjustments in expired accounts...	-275	...	...
78.00 Adjustments in unexpired accounts.	-66,147	...	...
90.00 Outlays	1,408,600	1,221,500	1,277,083
(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])

GPO : 1971 O - 443-377

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	2,449,500	2,150,000	________
Outlays	1,408,600	1,221,500	1,277,083
Reduction pursuant to P.L. 99-177:			
Budget authority	______	-92,450	________
Outlays	______	-32,841	-22,223
Total:			
Budget authority	2,449,500	2,057,550	________
Outlays	1,408,600	1,188,659	1,254,860

PROGRAM AND PERFORMANCE STATEMENT

FORMULA GRANTS

Through 1986, this program provided grants on the basis of statutory formulas to State and local agencies for mass transportation capital and operating expenses. Capital expenses included construction, acquisition, modernization, and improvement of existing transit facilities and equipment, employment of new technology, and technical planning assistance. Operating assistance expenses included administration, maintenance and operation of transit systems.

No appropriations are requested under this heading in 1987. Rather, it is proposed that formula grants be funded from the Mass Transit Account of the Highway Trust Fund. This proposal is further explained below under the account heading Transportation Block Grants--Transit (Trust Fund).

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

FORMULA GRANTS

Identification code 69-1129-6-1-401	19 85 actual	19 86 estimate	19 87 estimate
10.00 Total obligations (Object class 41.00).............	...	-92,450	...
Financing:			
40.00 Budget authority (Appropriation).	...	-92,450	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net........	...	-92,450	...
72.40 Obligated balance, start of year	...	...	-59,609
74.40 Obligated balance, end of year	...	59,609	37,386
90.00 Outlays total....................	...	-32,841	-22,223
(Memo cnt: 21.0)	(Memo cnt: 0)	(Memo cnt: 0)	(Memo cnt: 4.0)

GPO : 1971 O - 443-317

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

FORMULA GRANTS

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Estimate	FY 1986 after Sequestering	FY 1987 Request
Appropriation	$2,449,500	$2,150,000	$2,057,550	...
Urbanized - Section 9	$2,377,730	$2,087,005	$1,997,264	...
Nonurbanized- Section 18	$ 71,770	$ 62,995	$ 60,286	...
Cap on Operating Assistance	$ (870,201)	$ (865,906)	$ (828,672)1/	...

Through FY 1986, UMTA has been administering formula assistance programs under Section 9 and Section 18. These programs have offered a formula allocated resource for mass transportation in both urbanized and non-urbanized areas.

The Section 9 portion of the Formula Grants program has provided funds to urbanized areas for fixed guideway and bus capital projects, as well as operating and planning projects. Funding is apportioned for use in urbanized areas by a legislative formula based on urbanized area population, density, and transit service factors.

The Section 18 portion of the Formula Grants program has assisted States, local public bodies, nonprofit organizations and operators of public transportation services in providing public transportation to residents of small urban and rural areas. Funding is apportioned to the States by a legislative formula based on rural population. It is available for technical assistance, planning, research, administrative, capital and operating costs.

No new general funded appropriation is proposed for the Formula Grants program in FY 1987. However, we propose to continue Federal transit assistance, at a lower level, using funds from the Mass Transit Account of the Highway Trust Fund. Our plan to continue Federal transit assistance is discussed under the new Transportation Block Grants - Transit program. This proposed reduction contributes to the overall effort to reduce the Federal deficit. We are proposing legislation to effect these changes for FY 1987.

1/ This amount reflects a 4.3 percent reduction from the statutory limitations on operating assistance contained in 49 U.S.C. 1607(K) consistent with the overall reduction in the Formula Grants program required by the Balanced Budget and Emergency Deficit Control Act (Gramm-Rudman-Hollings). However, at State and local option, actual obligations may exceed this level, but in no case will obligations incurred exceed the statutory limitation.

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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

MISCELLANEOUS ACCOUNTS

Identification code 69-9913-0-1-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.01 Discretionary grants.............	84,666	6,147	...
10.02 Waterborne and commuter rail.....	62	...	...
10.00 Total Obligations (Object class 41.00)............	84,728	6,147	...
Financing:			
17.00 Recovery of prior year obligations	-77,517	...	...
21.40 Unobligated balance available, start of year....................	-13,796	-6,147	...
24.40 Unobligated balance available, end of year......................	6,147	...	...
25.00 Unobligated balance lapsing......	436	...	...
39.00 Budget authority (Appropriation).	...	...	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net........	84,728	6,147	...
72.40 Obligated balance, start of year	2,410,231	1,565,211	621,358
74.40 Obligated balance, end of year	-1,565,211	-621,358	-171,358
78.00 Adjustments in unexpired accounts	-77,517	...	...
90.00 Outlays	852,231	950,000	450,000
(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])

GPO : 1971 O - 448-317

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
MISCELLANEOUS ACCOUNTS

Status of Direct Loans (in thousands of dollars)

		1985 Actual	1986 Estimate	1987 Estimate
	Cumulative balance of direct loans outstanding:			
1210	Outstanding, start of year...	11,591	748	...
1262	Adjustments: Write-offs for default	-10,843	-748	...
1290	Outstanding, end of year.....	748	...	...

Status of Guaranteed Loans (in thousands of dollars)

		1985 Actual	1986 Estimate	1987 Estimate
	Cumulative balance of guaranteed loans outstanding:			
2210	Outstanding, start of year...	997,000	997,000	997,000
2290	Outstanding, end of year.....	997,000	997,000	997,000
	Memorandum:			
2299	U.S. contingent liability for guaranteed loans outstanding, end of year................	997,000	997,000	997,000

PROGRAM AND PERFORMANCE STATEMENT
MISCELLANEOUS ACCOUNTS

These schedules display programs that no longer require appropriations and thus reflects obligations and outlays made under prior year appropriations. Among these programs is the general funded appropriation for Discretionary Grants for 1983 and earlier years.

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
MISCELLANEOUS ACCOUNTS

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Appropriation	...	...	...
Obligations	84,728	6,147	...
Outlays	852,231	950,000	450,000

This account is comprised of previously appropriated funds for the General Fund portion of Discretionary Grants (which is now funded from the Mass Transit Account of the Highway Trust Fund), Waterborne Demonstration, and Commuter Rail. These are programs that no longer require appropriations and thus this account reflects only obligations and outlays made under prior fiscal year appropriations.

APPROPRIATION LANGUAGE

Trust Funds

Transportation Block Grants--Transit

(Limitation on Obligations)

Total obligations under the contract authority authorized for fiscal year 1987 under section 404(b) of the Surface Transportation Formula Program Act of 1986 shall not exceed $1,220,000,000: Provided, That not to exceed $26,800,000 of the amount of funds available herein shall be available to carry out necessary expenses for the administration and operation of the Urban Mass Transportation Administration: Provided further, That not to exceed $19,500,000 of the amount of funds available herein shall be made available to carry out the research, training and human resources programs of the Urban Mass Transportation Act of 1964, to remain available until September 30, 1988: Provided, That there may be credited to this appropriation funds received from States, counties, municipalities, other public authorities and private sources, for expenses incurred for training. (Additional authorizing legislation to be proposed.)

Liquidation of Contract Authorization

For payment of obligations incurred under Section 404(b) of the Surface Transportation Formula Program Act of 1986, $264,625,000 to be derived from the Mass Transit Account of the Highway Trust Fund and to remain available until expended. (Additional authorizing legislation to be proposed.)

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300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
TRANSPORTATION BLOCK GRANTS-TRANSIT (TRUST FUND)

Identification code 69-8099-0-7-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
Direct program:			
00.01 Large Urban Area Formula Grants	...	...	979,982
00.02 Small Urban Area Formula Grants	...	...	95,748
00.03 Rural Formula	...	...	32,470
00.04 Elderly and Handicapped	...	...	35,000
00.05 Planning	...	...	30,500
00.06 Research, training, and human resources	...	...	19,500
00.07 Administrative Expenses	...	...	26,000
00.91 Total direct program	...	...	1,220,000
01.01 Reimbursable program.............	...	...	300
10.00 Total obligations (Object class 41.00)........	...	...	1,220,300
Financing:			
14.00 Offsetting collections from Non-Federal sources..............	....	...	-300
39.00 Budget authority.................	...	...	1,220,000
Budget authority:			
40.00 Appropriation....................	...	...	264,625
40.49 Portion applied to liquidate contract authority..	...	...	-264,625
43.00 Appropriation (adjusted).........	...	...	...
49.10 Contract authority (Public Law 97-424)..............	...	...	1,220,000
Relation of obligations to outlays:			
71.00 Obligations incurred, net........	...	...	1,220,000
74.49 Obligated balance, end of year: Contract authority................	...	...	-955 375
90.00 Outlays	...	...	264,625

Note: Includes $1,220,000 thousand in 1987 for activities previously financed from (in thousands of dollars):

	1985	1986
Research, training & human resources	51,000	16,652
Administrative expenses	31,000	28,710
Discretionary grants	1,100,000	755,025
Total	1,182,000	800,387

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300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

STATUS OF UNFUNDED CONTRACT AUTHORITY

Identification code 69-8099-0-7-401	19 85 actual	19 86 estimate	19 87 estimate
Unfunded balance, start of year.........	...	...	...
Contract authority......................	...	...	1,220,000
Appropriation to liquidate contract authority................	...	...	-264,625
Unfunded balance, end of year...........	...	...	955,375

GPO : 1971 O - 448-317

PROGRAM AND PERFORMANCE STATEMENT
TRANSPORTATION BLOCK GRANTS--TRANSIT

For 1987, legislation is being proposed to amend Section 21 of the Urban Mass Transportation Act of 1964 and Title 23 of the United States Code to provide that funds available in the Mass Transit Account be allocated on the basis of legislative formulas to State and local agencies for mass transit capital investments rather than on a discretionary basis. In this new Transportation Block Grants program, State and local agencies will, for the first time, be able to use transit capital assistance for eligible highway projects.

Since benefits derived from mass transit accrue primarily to localities, and in light of the mounting pressure on the Federal deficit, it is appropriate to reduce the Federal role to one of managing and allocating the penny gas tax for transit. Since this penny gas tax for transit is collected nationally, it is also appropriate that it be allocated nationally so that, to the greatest degree possible, all payers of this tax may receive benefits from it.

An obligation limitation of $1.22 billion, consistent with the average annual receipts from the one penny per gallon motor fuel tax for mass transit over the 4 year authorization period, is proposed for 1987.

Large urban areas formula grants.--Funding is proposed to be allocated on the basis of legislative formulas to State and local agencies for mass transportation capital activities in urbanized areas with populations of 200 thousand or more.

Small urban area formula grants.--Funding is proposed to be allocated to States by a legislative formula for mass transportation capital and operating activities in small urban areas, defined as areas with populations over 50 thousand but below 200 thousand.

Rural formula grants.--Funding is proposed to be allocated to States by a legislative formula for mass transportation capital and operating activities in nonurbanized areas with populations below 50 thousand.

Operating assistance.--Furthermore, the legislative proposal will provide that only small cities and rural areas may use these funds for operating assistance. These areas claim to be most dependent upon Federal operating assistance.

Elderly and handicapped.--The Urban Mass Transportation Act of 1964, as amended, requires that special efforts be made in planning and design of mass transportation facilities and services so that elderly and handicapped persons are assured of mass transportation services that they can effectively utilize. This request for $35 million is higher than last year's level and will provide equipment and facilities needed to enhance transit mobility for elderly and handicapped persons through private, non-profit providers. The 16(b)(2) program is administered at the State level by designated State agencies.

Planning.--This program provides the funding to finance transit planning and technical studies. In 1987, UMTA will provide $30.5 million for Section 8 grants to State and local officials largely on the basis of a 1980 census population-based distribution. These funds are available for planning, engineering, and evaluating public transportation projects and for implementing other specialized technical studies.

Research, training and human resources.--It is also requested that up to $19.5 million in funds from the Mass Transit Account be made available to fund the Research, Training and Human Resources program. Prior to 1987, funding for the Research, Training and Human Resources program was derived from general revenues. Any new budget authority will be included within the obligation limitation of the new Transportation Block Grants--Transit program and will be available for two years. Any unobligated balances from the general funded Research, Training and Human Resources program, that existed prior to 1987, will not be subject to the obligation limitation for 1987. Areas of emphasis in 1987 will include private sector transit alternatives, transit safety and security, operations and management practices, alternative fuels, necessary project management oversight, maintenance, and human resources.

Administrative expenses.--It is also requested in 1987 that $26.8 million in funds from the Mass Transit Account be made available to fund the necessary expenses for the administration and operation of the UMTA program. Any new budget authority for the Administrative Expenses program will also be included within the obligation limitation for the new Transportation Block Grants--Transit program. This appropriation will finance personnel and other support costs associated with managing and directing UMTA program responsibilities. Prior to 1987, funding for the Administrative Expenses program was derived from general revenues. The reduction in Administrative Expenses from 1986 to 1987 results primarily from a planned 21 percent reduction in FTE workyears, consistent with termination of selected mass transit programs.

The status of the fund is as follows (in thousands of dollars):

	1985 actual	1986 estimate	1987 estimate
Unexpended balance brought forward, start of year:	1,611,049	2,524,017	3,126,431
Cash income during the year, Governmental receipts:			
Motor fuel taxes	1,213,700	1,078,000	1,216,000
Interest on investments	206,266	274,500	312,600
Total annual income	1,419,966	1,352,500	1,528,600
Cash outgo during the year (liquidation of contract authorization):			
Discretionary Grants	506,998	750,086*	792,545*
Transportation Block Grants	....	....	264,625
Subtotal	506,998	750,086	1,057,170
Unexpended balance carried forward, end of year	2,524,017	3,126,431	3,597,861

*This figure reflects reductions from the proposed rescission and from the Gramm-Rudman sequestration.

STANDARD FORM 300
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Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
FY 1987 TRANSPORTATION BLOCK GRANTS--TRANSIT
OBJECT CLASSIFICATION (in thousands of dollars)

Identification code 69-8099-0-7-401		19 85 actual	19 86 estimate	19 87 estimate
Direct Obligations:				
Personnel Compensation:				
11.1	Full-time permanent	...	...	14,464
11.3	Other than full-time permanent	...	...	357
11.5	Other personnel compensation	...	...	286
11.9	Total personnel compensation	...	...	15,107
12.1	Personnel Benefits: Civilian	...	...	1,875
13.0	Benefits to former personnel	...	...	2,151
21.0	Travel and transportation of persons	...	...	672
22.0	Transportation of things	...	...	7
23.1	Standard level user charges	...	...	1,176
23.2	Rental payments to others	...	...	58
23.30	Communications, utilities, and miscellaneous charges	...	...	804
24.0	Printing and reproduction	...	...	199
25.0	Other services	...	...	16,792
26.0	Supplies and materials	...	...	120
31.0	Equipment	...	...	514
41.0	Grants, subsidies and contributions	...	...	1,180,525
99.0	Subtotal, direct obligations	...	...	1,220,000
99.0	Reimbursable obligations	...	...	300
99.9	Total obligations	...	...	1.220,300

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
TRANSPORTATION BLOCK GRANTS--TRANSIT
PERSONNEL SUMMARY

Identification code 69-8099-0-7-401	1985 actual	1986 estimate	1987 estimate
Direct:			
Total number of full-time permanent positions	...	...	343
Total compensable workyears:			
Full-time equivalent employment	...	...	389
Full-time equivalent of overtime and holiday hours	...	...	5
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
TRANSPORTATION BLOCK GRANTS -- TRANSIT
(TRUST FUND)

Comparative Summary of Activity
(Dollar in Thousands)

	FY 1985 Actual	FY 1986 Estimate	FY 1986 after Sequestering	FY 1987 Request
Contract Authority	...	...	...	$1,220,000
Obligation Limitation	...	...	...	$1,220,000
Liquidation of Contract Authorization	...	...	...	264,625

The Administration proposes to discontinue funding the formula program from general funds. Instead, the formula program would be funded from the Mass Transit Account of the Highway Trust Fund to assure a fairer allocation of such funds throughout the country.

In FY 1987, we are proposing new authorizing legislation with an obligation limitation of $1.22 billion on the contract authorization for the Transportation Block Grants-Transit program. Of these funds $1.1 billion would be fungible with approximately $2.2 billion in other Highway Trust Fund monies and would be available for either highway or transit projects. The Mass Transit Account funds would pass through States to urbanized areas over 200,000 population while the balance of the funding would be managed at the State level for all areas under 200,000 population.

The Federal share would be changed from 80 to 75 percent for transit capital and highway projects under the proposed block grant program. This is the existing ratio for Section 3 and the existing highway programs (except Interstate) and would encourage a greater commitment at the local level to make economically sound decisions on how the funds are spent. Each state would submit a annual list of required assurances.

Highway and transit block grant funding could be used for highway or transit capital projects, including new start construction at the discretion of recipients.

We propose, to the extent feasible under State or local law, to encourage recipients to have private mass transportation company representation on their policy boards. The Administration hopes that greater private participation would enhance the provision of transportation services.

Any area that would use the block grant funds for transit would have to provide a certain amount of competitively developed transit service, based on percentage of total transit operating costs in that area. The requirement would be 5 percent in 1987, 10 percent in 1988, 15 percent in 1989, and 20 percent in 1990. Also, transit operators would not be allowed to engage in charter bus operation.

Responsibility for local transit systems is basically a local matter. Decisions concerning mass transit fares and route structures are made at the State and local levels. In addition, benefits derived from mass transit accrue primarily to localities. Since the passage of the Urban Mass Transportation Act of 1964, the Federal Government has appropriated more than $40 billion for mass transportation.

Now, however, in an era of mounting pressures on the Federal budget, it is time for State and local governments and the private sector to assume a greater responsibility for continuing the work previously done under the Federal program. The Federal Government role should be reduced.

The proposed Transportation Block Grants-Transit program would include funding assistance for capital facilities and equipment, planning, elderly and handicapped and limited operating expenses. The Federal share would be 75 percent for capital projects and 50 percent for operating assistance. The program would set-aside $35 million for the 16(b)(2) program, $30.5 million for Section 8 planning activities, $26.8 million for administration and $19.5 million for research. The balance of the funds would be distributed according to the legislative formulas for Sections 9A and 18 as follows:

Rural Areas - $32.47 million

Non-urbanized areas with population under 50,000 would receive 2.93 percent with the amount each state received based on the State's percentage of the Nation's rural population.

Small Urbanized Areas - $95.748 million

Urbanized areas under 200,000 population would receive 8.64 percent with 50 percent based on population and 50 percent based on population density.

Large Urbanized Areas - $979.982 million

Urbanized areas over 200,000 population would receive 88.43 percent. Of this amount, 66.71 percent would be apportioned with 50 percent based on bus revenue vehicle miles, 25 percent based on population and 25 percent based on population density. The other 33.29 percent would be apportioned with 60 percent based on fixed guideway revenue vehicle miles and 40 percent based on fixed guideway route miles.

Planning

The new program would provide $30.5 million to State and local officials to finance comprehensive planning and technical studies. The funds would be available for planning, engineering, and evaluating public transportation projects and for implementing specialized technical studies.

Elderly and Handicapped

The program would also provide $35 million in FY 1987 for special efforts to be made in the planning and design of mass transportation facilities and services so that elderly and handicapped persons would be assured of mass transportation services that they could effectively utilize. The program would provide capital funding to assist in the provision of transportation services for the elderly and handicapped through private non-profit providers. Funds would be allocated to the States by administrative formula based on the States' share of the elderly and handicapped population. The funds would be administered at the State level by a designated State agency.

Operating Assistance

We propose to continue operating assistance in rural areas and urbanized areas of less than 200,000 population. In FY 1987, urbanized areas with populations of less than 200,000 would be limited to the $111.89 million level made available for operating assistance in FY 1985. The amounts made available for operating assistance for any specific urbanized area would be subject to the discretion of the Governor of that State. Rural areas, in like manner, would have their operating assistance limited to the amount of their FY 1985 Section 18 State apportionment of $71.77 million.

In FY 1987, our proposal would allocate $32.47 million to rural areas and $95.748 million urbanized areas under 200,000 population. The difference between these allocations and the operating assistance caps could be funded, at the discretion of the Governor, from the $2.2 billion fungible highway portion of the Transportation Block Grants program.

The Federal share of eligible costs would continue to be 50 percent. To assist larger urbanized areas in maintaining their buses the definition of eligible capital items would be expanded to include equipment, tires, materials and supplies.

Liquidation of Contract Authorization

For FY 1987, it is proposed that the $1.22 billion in contract authority under the new Transportation Block Grants--Transit program be allocated via legislative formulas rather than on a discretionary basis. Thus, we are proposing a new account to keep the obligation limitation and liquidating cash appropriation separate from the older Discretionary Grants obligational authority and cash.

The following table summarizes the status of cash requested to be appropriated from the Mass Transit Account for Transportation Block Grants--Transit:

STATUS OF LIQUIDATING CASH
FORMULA CAPITAL GRANTS (TRUST FUND)

	(In thousands of dollars)
Cash balance, beginning of FY 1987.........	$ ...
Liquidating cash appropriation requested, FY 1987......................	264,625
Total cash available, FY 1987........	264,625
Less: Estimated outlays, FY 1987........	-264,625
Cash balance, end of FY 1987.............	...

APPROPRIATION LANGUAGE

[Discretionary Grants (Limitation on Obligations)]

[None of the funds in this Act shall be available for the implementation or execution of programs in excess of $1,045,500,000 in fiscal year 1986 for grants under the contract authority authorized in section 21(a)(2)(B) of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1601 et seq.).]

LIQUIDATION OF CONTRACT AUTHORIZATION

For payment of obligations incurred in carrying out section 21(a)(2) of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1601 et seq.), administered by the Urban Mass Transportation Administration, [$775,000,000] $950,000,000, to be derived from the Highway Trust Fund and to remain available until expended. (Department of Transportation and Related Agencies Appropriations Act, 1986, as included in Public Law 99-190.)

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

DISCRETIONARY GRANTS-TRUST FUND

Identification code 69-8191-0-7-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
1. Urban Formula Grants	47,257	45,684	...
2. Non-Urban Formula Grants	3,523	...	...
3. Discretionary Grants	695,337	1,154,616	404,512
10.00 Total Obligations (Object class 41.00)..............	746,117	1,200,300	404,512
Financing:			
17.00 Recovery of prior year obligations	-4,294	...	...
21.49 Unobligated balance available, start of year: Contract authority.	-206,135	-564,312	-464,012
24.49 Unobligated balance available, end of year: Contract authority...	564,312	464,012	59,500
39.00 Budget authority..................	1,100,000	1,100,000	...
40.00 Budget authority (Appropriation)..	450,000	775,000	950,000
40.49 Permanent authority(Portion applied to liquidate contract authority...	-450,000	-775,000	-950,000
43.00 Appropriation (adjusted)..........	...	...	...
49.10 Contract authority (Public law 97-424) (definite)..............	1,100,000	1,100,000	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	746,117	1,200,300	404,512
Obligated balance, start of year:			
72.40 Appropriation.....................	60,673	3,675	...
72.49 Contract authority................	1,525,865	1,817,888	2,242,988
Obligated balance, end of year:			
74.40 Appropriation.....................	-3,575	...	-44,200
74.49 Contract authority................	-1,817,888	-2,242,988	-1,697,500
78.00 Adjustments in unexpired accounts.	-4,294	...	...
90.00 Outlays	506,898	778,875	905,800

Note: Excludes $65,500 thousand in 1987 for elderly and handicapped, and planning activities transferred to Transportation Block Grants—Transit (Trust fund)

SUMMARY OF BUDGET AUTHORITY AND OUTLAYS
(in thousands of dollars)

	1985 actual	1986 estimate	1987 estimate
Enacted/requested:			
Budget authority	1,100,000	1,100,000	--------
Outlays	506,998	778,675	905,800
Reduction pursuant to P.L. 99-177:			
Budget authority	---------	-47,300	--------
Outlays	---------	-2,525	-9,000
Rescission Proposal:			
Budget authority	---------	-297,675	--------
Outlays	---------	-26,064	-104,255
Total:			
Budget authority	1,100,000	755,025	--------
Outlays	506,998	750,086	792.545

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)

STATUS OF UNFUNDED CONTRACT AUTHORITY

Identification code 69-8191-0-7-401	19 85 actual	19 86 estimate	19 87 estimate
Unfunded balance, start of year........	1,732,000	2,382,000	2,138,425
Contract authority......................	1,100,000	1,100,000	...
Reduction pursuant to P.L 99-177.......	...	-47,300	...
Rescission proposal:Contract authority	...	-297,875	...
Unobligated balance.....................	...	-223,600	...
Appropriation to liquidate contract authority...............	-450,000	-775,000	-950,000
Unfunded balance, end of year...........	2,382,000	2,138,425	1,188,425

PROGRAM AND PERFORMANCE STATEMENT

DISCRETIONARY GRANTS

In 1983, the first year of the Mass Transit Account, authorized funding was apportioned for capital mass transit projects in this account in urban and non-urban areas in accordance with legislative formulas. The formula funding made available to urbanized areas will remain available through 1986. The non-urban formula funding was available through 1985. Funding in this account authorized for 1984, 1985, and 1986 was allocated for capital mass transit projects under Discretionary Grants which provided additional financial assistance over and above the Section 9 and 18 Formula Grants programs.

Urban formula grants.--For 1983, funding was allocated on the basis of legislative formulas to State and local agencies for mass transportation capital activities in urbanized areas with populations of 50 thousand or more.

Discretionary grants.--For 1984, 1985, and 1986 funding has provided financial assistance at the discretion of the Secretary (though often directed by Congress) for planning and capital investments in mass transportation. The Discretionary Grants program has been used to fund selected bus projects, rail modernization projects, and new fixed guideways systems. In addition, a small amount of discretionary funds were used for selected grants to support planning, innovative techniques, and special elderly and handicapped transportation services. In 1987, no funding is requested for discretionary allocation. Rather, a separate formula grant program under the heading Transportation Block Grant--Transit is proposed to ensure that resources from the nationally derived motor fuel tax will be more fairly allocated on the basis of legislative formulas.

Continued Federal funding under the Discretionary Grants account for major new fixed guideway investments, or new starts, can result in the development of many inefficient, expensive transit systems that will cost more to operate than other available transportation alternatives. It is proposed that this program be terminated immediately, in order to avoid any post-1986 costs of new projects. Therefore, it is proposed that most available "new start" resources in 1986 be rescinded.

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
(in thousands of dollars)
Reduction Pursuant to Public Law 99-177

DISCRETIONARY GRANTS-TRUST FUND

Identification code 69-8191-8-7-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Total Obligations (Object class 41.00)...............	...	-44,257	...
Financing:			
21.40 Unobligated balance available, start of year......................	...	...	2,343
24.40 Unobligated balance available, end of year......................	...	-2,343	-2,343
49.10 Budget authority (Contract authority)...............	...	-47,300	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.........	...	-44,957	...
72.40 Obligated balance, start of year:	...	...	-42,432
74.40 Obligated balance, end of year:	...	42,432	33,432
90.00 Outlays	...	-2,525	-9,000
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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

DISCRETIONARY GRANTS
(TRUST FUND)

Comparative Summary of Activity
(Dollars in Thousands)

	FY 1985 Actual	FY 1986 Enacted	FY 1986 after Sequestering	FY 1986 Adjusted	FY 1987 Request
Contract Authority	$1,100,000	$1,100,000	$1,052,700	$755,025	...
Obligation Limitation	$1,120,000	$1,045,500	$1,000,543	$702,868	...
Liquidation of Contract Authorization	($450,000)	($775,000)	($ 775,000)	($775,000)	0

Through FY 1986, under the STAA of 1982, the Section 3 Discretionary Grants program has been providing financial assistance to urbanized areas for planning and capital investments in mass transportation projects. Because the Section 9 and Section 18 Formula Grants programs have financed most routine capital needs, the Discretionary Grants program became a resource for major or extraordinary investments in mass transit infrastructure and, under the authority of Sections 8, 16(b)(2) and 4(i), for financing the Planning, Elderly and Handicapped and Innovative Techniques programs. The Discretionary Grants program has been used for the construction of new fixed guideway facilities as well as for investment in modernization work on older rail transit systems. Bus and bus-related investments were largely met through the Section 9 and Section 18 programs; therefore, Section 3 funds have been used sparingly to supplement formula funds for extraordinary bus capital investments.

With respect to new starts in the past three appropriations bills, Congress directed UMTA to fund twelve projects whose total cost ranges around $4 billion. Over the same timeframe, UMTA's new starts appropriation has been $1.2 billion. Thus, for this one program activity, outyear expectations total at least $3 billion in excess of the amount currently available by virtue of the earmarking practice.

In FY 1987, we are requesting no new funding for the Discretionary Grants program. Instead, for FY 1987, legislation is being proposed under which the funds from the Mass Transit Account of the Highway Trust Fund would be distributed by formula. Funding for the Elderly and Handicapped program authorized by Section 16(b)(2) and the Planning program authorized by Section 8 will be set aside prior to formula allocation. This proposed allocation of the Mass Transit Account funds is discussed under the proposed Transportation Block Grants - Transit program.

It is also proposed that most of the remaining Section 3 new start funds under the fiscal years 1984, 1985 and 1986 obligation limitations be rescinded, for the principal reason that the unobligated amounts are insufficient to finance the projects to completion. Congress provided a total of $3.45 billion in contract authority for fiscal years 1984, 1985, and FY 1986 with obligations limited to $3.39 billion. This limitation on Section 3 obligations, according to the Appropriations Committees' Conference Reports for fiscal years 1984, 1985 and 1986, includes $1.207 billion for "new start" projects.

Of these FY 1984-85 "new start" funds, $359.0 million was included for projects in five cities which have not received grants to the total of the earmarks: Los Angeles ($234.4 million), Miami ($84.0 million), San Diego ($11.3 million), Jacksonville ($17.3 million), and St. Louis ($12.0 million). Through FY 1985, $135.4 million was obligated for these projects, leaving $223.6 million unobligated. This $223.6 million in unobligated funds is comprised of the following: Los Angeles ($129 million), Miami ($71.5 million), San Diego ($11.3 million), St. Louis ($10 million) and Jacksonville ($1.8 million).

The $223.6 million of FY 1984-85 funds should be rescinded rather than obligated, since these funds would not provide sufficient resources to complete the desired "new start" projects in these five cities.

The Appropriations Committees' Conference Reports for FY 1986, includes $385.0 million for ten "new start" projects. Of these "new start" funds, $311.05 million was included for projects in the following eight cities: Los Angeles ($101.0 million), Miami ($38.0 million), San Diego ($9.3 million), St. Louis ($13.5 million), Seattle ($24.65 million), Atlanta ($69.0 million), Houston ($54.75 million) and Buffalo ($0.85 million). The Gramm-Rudman sequestering will cut $13.38 million from these eight cities, leaving a balance of $297.67 million remaining.

This $297.67 million of FY 1986 and $223.6 million of FY 1984-1985 funds should be rescinded rather than obligated because the funds would not be sufficient to complete these "new start" projects. More specifically, there would be a Federal funding shortfall of over $4 billion for these nine projects. The other two projects in Santa Clara and Portland are under Full Funding Contracts so funds would be made available for these projects. Given the urgent need to reduce Federal expenditures now and in the coming years, and in light of the Gramm-Rudman deficit reduction targets, the Federal Government cannot promise that any of this shortfall will be provided in the years to come and, therefore, proposes that these available funds be rescinded.

Value Engineering

In accordance with congressional guidance, value engineering has been applied to the following projects:

Project	Estimated Project Cost	VE Savings
Los Angeles Wilshire Rail	$3,300.0 million	$ 3.76 million
San Jose Light Rail	$ 407.0 million	$12.1 million
North Jersey Coast Line Commuter Rail	$ 90.0 million	$ 6.1 million
Downtown Seattle Bus Tunnel	$ 478.0 million	$63.0 million
Houston-NW Transitway	$ 105.0 million	$ 3.1 million
Chicago-SW Rail Line	$ 496.0 million	*
St. Louis Light Rail	$250 million	**
Total	$5,126.0 million	$121.9 million

* Recommendation currently being evaluated.
** VE study to be done in March 1986

Liquidation of Contract Authorization

The Surface Transportation Assistance Act of 1982 established the Mass Transit Account of the Highway Trust Fund. Revenues equivalent to one-cent of the nine-cents per gallon user fee are deposited into this account for financial assistance to mass transportation capital activities.

Additional liquidating cash will be required for several years to come under this account heading until all obligated balances can be liquidated.

Appropriations of liquidating cash are required to make outlays for prior and current year obligations. For FY 1987, outlays are anticipated to total $905.8 million, and a liquidating cash appropriation of $950.000 million will be required.

The following table summarizes the current status of cash appropriated against the Mass transit account:

STATUS OF LIQUIDATING CASH
DISCRETIONARY GRANTS (TRUST FUND)

	(In thousands of dollars)
Cash balance, beginning of FY 1985	$ 60,673
Liquidating cash appropriation, FY 1985	450,000
Total cash available, FY 1985	510,673
Less: Actual outlays, FY 1985	-506,998
Cash balance, end of FY 1985	3,675
Liquidating cash available, FY 1986	775,000
Total cash available, FY 1986	778,675
Less: Estimated outlays, FY 1986	-778,675
Cash balance, end of FY 1986	...
Liquidating cash appropriation requested, FY 1987	950,000
Total cash available, FY 1987	950,000
Less: estimated outlays, FY 1987	-905,800
Cash balance, end of FY 1987	44,200

[illegible]

(in thousands of dollars)

DISCRETIONARY GRANTS-TRUST FUND-RESCISSION PROPOSAL

Identification code 69-8191-5-7-401	19 85 actual	19 86 estimate	19 87 estimate
Program by activities:			
10.00 Discretionary Grants (Object class 41.00)...............	...	-521,275	...
Financing:			
23.49 Unobligated balance rescission proposal......................	...	223,600	...
49.00 Contract authority rescission proposal R86-87	...	-297,675	...
Relation of obligations to outlays:			
71.00 Obligations incurred, net.....	...	-521,275	...
Obligated balance, start of year:			
72.40 Appropriation.....................	...	...	26,064
72.49 Contract authority................	...	...	-521,275
Obligated balance, end of year:			
74.40 Appropriation.....................	...	-26,064	-130,319
74.49 Contract authority................	...	521,275	521,275
90.00 Outlays	...	-26,064	-104,255
(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])	(Memo cost: [illegible])

PROGRAM AND PERFORMANCE STATEMENT

This proposal would rescind funding for discretionary grants to build new transit systems or expand existing systems. This proposal reflects current administration policy.

Justification

A rescission is proposed for almost all of the available discretionary new starts funding. The Administration has determined that the unobligated balances from 1984 and 1985 funds should not be obligated since these funds would not provide sufficient resources to complete the desired "new start" projects. This $223.6 million of unobligated balances would only provide about five percent of the estimated $4 billion Federal funds needed to construct fully the desired "new start" projects.

The Administration has also determined that the 1986 funds should not be obligated since these funds would not provide sufficient resources to complete the desired "new start" projects in eight New Starts cities. The $297.67 million of new budget authority would only provide about seven percent of the estimated $4 billion needed in Federal funds to fully construct the desired "new start" project in these cities.

Given the need to reduce Federal expenditures now and in the coming years, especially in light of the Balanced Budget and Emergency Deficit Reduction Act of 1985, the Federal Government cannot promise that this $4 billion shortfall in Federal funding will be provided. This Administration opposes funding new fixed investments under the Discretionary Grants program. Investment in "new start" projects can result in the development of many inefficient, expensive transit systems that will cost more to operate than other transit alternatives. Therefore, the Administration proposes rescinding a total of $521.27 million; that is the sum of $297.67 million of 1986 funds and $223.6 million in 1984-1985 funds.

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NATIONAL TRANSPORTATION SAFETY BOARD

FISCAL YEAR
1987 BUDGET

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NATIONAL TRANSPORTATION SAFETY BOARD
SALARIES AND EXPENSES
Program and Financing (in thousands of dollars)

Identification Code: 95-0310-0-1-407	1985 Actual	1986 Estimate	1986 G-R-H Reduction	1986 G-R-H Estimate	1987 Estimate
Program by activities:					
00.01 Policy and Direction	2,414	2,774	-119	2,655	2,666
00.02 Accident Investigation	10,657	10,735	-462	10,273	10,316
00.03 Technology	4,882	4,968	-214	4,754	4,774
00.04 Safety Programs	1,560	1,571	-67	1,504	1,510
00.05 Administration	1,480	1,491	-64	1,427	1,432
00.06 Administrative Law Judges	906	761	-33	728	732
10.00 Total Obligations	21,899	22,300	-959	21,341	21,430
Financing:					
Budget Authority:					
40.00 Appropriation	21,899	22,300	-959	21,341	21,430
44.20 Supplemental for Civilian Pay Raises	--	--	--	--	--
Relation of Obligations to Outlays:					
71.00 Obligations Incurred, Net	21,899	22,300	-959	21,341	21,430
72.40 Obligated Balance, Start of Year	2,289	2,222	--	2,222	2,205
74.40 Obligated Balance, End of Year	-2,222	-2,263	58	-2,205	-2,174
77.00 Adjustments in Expired Accounts	-387	--	--	--	--
90.00 Outlays, Excluding Pay Raise Supplemental	21,579	22,259	-901	21,358	21,461
91.20 Outlays from Civilian Pay Raise Supplemental	--	--	--	--	--

NATIONAL TRANSPORTATION SAFETY BOARD
SALARIES AND EXPENSES
Object Classification (in thousands of dollars)

Identification Code: 95-0310-0-1-407	1985 Actual	1986 Estimate	1986 G-R-H Reduction	1986 G-R-H Estimate	1987 Estimate
Personnel Compensation and Benefits:					
11.1 Permanent positions	12,908	13,326	-437	12,889	12,300
11.3 Positions other than permanent	209	192	--	192	196
11.5 Other personnel compensation	465	481	--	481	436
11.8 Special personal services payments	21	20	--	20	20
Total personnel compensation	13,603	14,019	-437	13,582	12,952
12.1 Personnel Benefits: Civilian	1,588	1,652	-48	1,604	1,530
Total personnel compensation and benefits	15,191	15,671	-485	15,186	14,482
Other Than Personnel Compensation and Benefits:					
21.0 Travel and transportation of persons	1,217	1,223	-53	1,170	1,159
22.0 Transportation of things	78	81	--	81	76
23.1 Standard level user charges	1,226	1,220	--	1,220	1,725
23.2 Rental payments to others	66	59	--	69	75
23.3 Communications, utilities, and miscellaneous charges	1,081	1,212	--	1,212	1,301
24.0 Printing and reproduction	342	357	--	357	336
25.0 Other services	1,387	1,550	--	1,550	1,438
26.0 Supplies and materials	266	165	-50	115	155
31.0 Equipment	1,036	743	-371	372	674
42.0 Insurance claims and indemnities	9	9	--	9	9
99.9 Total obligations	21,899	22,300	-959	21,341	21,430

NATIONAL TRANSPORTATION SAFETY BOARD
SALARIES AND EXPENSES
Personnel Summary

Identification Code: 95-0310-0-1-407	1985 Actual	1986 Estimate	1986 G-R-H Reduction	1986 G-R-H Estimate	1987 Estimate
Total compensable workyears:					
Full-time equivalent employment	336	338	-14	324	306
Full-time equivalent of overtime and holiday hours	8	8	--	8	8
Average ES salary	69,960	70,112	--	70,112	70,336
Average GS/GM grade	11.89	11.87	--	11.87	11.95
Average GS/GM salary	37,150	37,419	--	37,419	38,167

NATIONAL TRANSPORTATION SAFETY BOARD
EMERGENCY FUND
Program and Financing (in thousands of dollars)

Identification Code: 95-0311-0-1-407	1985 Actual	1986 Estimate	1986 G-R-H Reduction	1986 G-R-H Estimate	1987 Estimate
Program by activities:					
10.00 Total Obligations (Object Class 25.0)	351	--	--	--	--
Financing:					
21.40 Unobligated balance available, start of year	-1,000	-649	--	-649	-649
24.40 Unobligated balance available, end of year	649	649	--	649	649
39.00 Budget authority	--	--	--	--	--
Relation of Obligations to Outlays:					
71.00 Obligations Incurred, Net	351	--	--	--	--
72.40 Obligated Balance, Start of Year	--	351	--	--	--
74.40 Obligated Balance, End of Year	351	--	--	--	--
90.00 Outlays	--	351	--	--	--

Note: Emergency Fund monies were obligated in FY 1985 for costs incurred in recovering the wreckage of the Air India B-747 which crashed off the coast of Ireland on June 23, 1985.

NATIONAL TRANSPORTATION SAFETY BOARD MISSION AND AUTHORITY

The National Transportation Safety Board is an independent agency charged with determining the probable cause(s) of transportation accidents and promoting transportation safety. The Board investigates accidents, conducts safety studies, evaluates the effectiveness of other government agencies' programs in preventing transportation accidents, and reviews appeals of adverse actions by the Administrators of agencies of the Department of Transportation involving airman and seaman certificates and licenses.

Most importantly, the Board makes safety recommendations, based on its investigations and studies, to Federal, State and local government agencies and to the transportation industry regarding actions that should be taken to prevent accidents. Safety recommendations are the focal point of the Board's efforts to improve safety in the transportation system.

Although the Board's charter is the Independent Safety Board Act of 1974, its origins can be found in the Air Commerce Act of 1926, in which Congress charged the Commerce Department with investigating the causes of aircraft accidents. Since 1966 the Board has investigated accidents in all modes of transportation including aviation, highway, marine, rail and pipeline, as well as accidents involving the release of hazardous materials.

The Board has no authority to regulate the transportation industry. Therefore, its effectiveness depends on its reputation for timely and accurate determination of accident causation and for issuing realistic and feasible safety recommendations to satisfy the public's demand for prompt implementation of safety improvements.

SAFETY ACCOMPLISHMENTS

The goal of the Board's accident investigation and safety problem identification programs is to achieve the greatest safety benefits from its efforts. The following are examples of safety accomplishments from the Board's past efforts.

AVIATION

Aircraft Cabin Fires

As a result of its investigation of the Air Canada DC-9 in-flight fire on June 2, 1983, in which 23 of the 46 occupants died because of the inhalation of smoke and toxic gases, the Safety Board, in October 1983, issued 11 safety recommendations to the FAA which addressed the need to improve the fire resistence of cabin interior materials and to increase the chances of survival of passengers.

In response to these 11 cabin fire safety recommendations, the FAA on October 26, 1984, issued new rules requiring that fire-blocking seat cushions be retrofitted in transport category airplanes certificated after January 1, 1958, within 3 years after the effective date of the final rule. On the same date, the FAA also issued a new rule requiring that floor proximity emergency escape path lighting be installed in transport category airplanes, within 2 years. On April 29, 1985, the FAA issued a final rule requiring smoke detectors and automatic discharge fire extinguishers in lavatories and Halon fire extinguishers in the cabins of transport category airplanes.

On August 8, 1984, the FAA issued a Notice of Proposed Rulemaking (NPRM), which proposed to require new test methods for the containment of fire in cargo compartments. On April 16, 1985, an additional Notice of Proposed Rulemaking was issued by the FAA, which proposed new flammability and emission standards for cabin interior materials by establishing a new and more stringent test for flammability of these materials. The FAA's proposed final rule on this matter was submitted to the Secretary of Transportation on December 23, 1985, for executive-branch coordination.

Also, on October 10, 1985, the FAA issued an NPRM to require protective breathing equipment for the flight crew and cabin attendants. The Safety Board commented favorably on this proposed rulemaking.

Aviation and Alcohol

In May 1984, the Board issued the results of a statistical study of the extent of alcohol involvement in aviation accidents.

Using fatal accident data from 1975 through 1981, the Safety Board determined that in 10.5 percent of the conclusive toxicological blood tests of fatally-injured general aviation pilots, alcohol was found to be present. But the major indication that a problem exists is that 45 percent of the pilots in alcohol-involved accidents had blood alcohol levels (BAL) of more than 0.15 (many States consider 0.10 BAL as proof of intoxication). No alcohol involvement was found in any accidents of scheduled service airlines flying large aircraft, but post-mortem tests made of pilots in commuter and "air taxi" accidents showed alcohol was involved in 6.4 and 7.4 percent of the fatal accidents, respectively.

A review of 1983 aviation accidents conducted this year found that 44 accidents (of which 36 were fatal) involved alcohol based upon toxicological testing. Overall, alcohol was involved in 9.1 percent of all aviation accidents in 1983 (in which valid toxicology test were conducted). No commuter or on-demand air taxi accidents involved alcohol in 1983. However, 9.6 percent of general aviation accidents in that year were found to involve alcohol.

In its October 1984 response to Safety Board recommendations, the FAA said that although it agrees that, while flying, pilots' blood should contain no alcohol, the level at which impairment "can be scientifically shown is 0.04 percent." The FAA issued a final rule effective in July 1985, which establishes a BAL limit of 0.04 percent. The FAA also has promulgated a supplemental notice of proposed rulemaking that would require pilots to cooperate with State and local police who may request that they submit to an alcohol "implied consent" test.

During 1985, the Safety Board reasserted its recommendations to the FAA that a BAL defining "under the influence" be set at the lowest measurable level, rather than 0.04 percent. The Board also questioned the effectiveness of the FAA's proposed "implied consent" testing system which defers the enforcement actions to State and local police who, in a number of States, do not have the requisite authority to test suspected intoxicated pilots.

Runway Incursions

On December 19, 1983, a Japan Airline's Boeing 747-200 collided with a pickup truck which was crossing the runway at the Anchorage International Airport in Alaska. The airplane incurred substantial damage, but the three crewmembers were uninjured. The pickup truck was demolished, and the driver was seriously injured.

On December 20, 1983, an Ozark Airlines DC-9-31 collided with a snow sweeper as it was clearing the runway at the Sioux Falls, South Dakota, airport. The aircraft received substantial damage, but the crew of 5 and the 81 passengers were able to evacuate the airplane via the forward escape slides without reported injury. The snow sweeper was demolished, and its operator was killed.

On December 21, 1983, as a result of the Anchorage and Sioux Falls accidents, the Federal Aviation Administration's (FAA) Air Traffic Service issued a General Notice to all air traffic facilities providing airport advisory service. The notice directed facility air traffic managers to conduct mandatory briefings of assigned personnel regarding proper coordination and application of procedures relative to landing aircraft when there are vehicle operations in progress on runways.

On March 8, 1984, a Piedmont Airlines Boeing 737-200 with 22 people on board, executed an emergency go-around at the Greater Cincinnati International Airport in Kentucky. After touching down, the flightcrew saw amber flashing lights on eight pieces of snow removal equipment on the runway about 1,000 feet ahead of the airplane. The airplane lifted off the runway and missed the snow removal equipment by an estimated 10 feet.

In all three occurrences, vehicles were operating within instrument landing system (ILS) critical areas at a time when aircraft were executing ILS approaches in reduced visibility conditions. ILS critical areas were established to ensure that no vehicles or aircraft would be operating in an area that could cause a deviation in course or glide slope signals from the ILS system. A deviation in either course or glide slope signal information caused by vehicles operating in a critical area could cause a flightcrew, following those signals, to deviate from the actual ILS course or glide slope with a potential for disastrous results.

As a result of its investigation of these accidents, the Safety Board recommended that the FAA develop a mechanical/aural/visual (or combination thereof) alerting device and require its use by local and ground controllers to coordinate their activities when a vehicle has been cleared to operate on an active duty runway for an extended period such as in snow removal operations.

In a recent response, the FAA replied that a task group consisting of FAA field, regional, and headquarters representatives met during January 1985 to discuss issues which were relevant to the Safety Board's recommendation. They include development of an FAA order stipulating specific actions required by air traffic control personnel to reduce runway transgressions, which may include devices producing aural and/or visual cues for the controller, and tightening the control of surface traffic on runways.

On March 31, 1985, two Northwest Airlines DC-10s, were involved in a near collision on Runway 29L at Minneapolis-St. Paul International Airport. The captain of one of the aircraft stated that his airplane flew directly over the top of the other, and he estimated the distance between the airplanes was between 50 to 75 feet. There was no damage to either airplane, and there were no injuries to the 501 people aboard the two aircraft.

Preliminary information indicates that one aircraft was cleared for takeoff by the local controller at about the same time that the other aircraft was cleared by the ground controller to cross the active runway. The concurrent clearances apparently were issued as a result of incomplete and/or misunderstood verbal coordination between the local and ground controllers.

As a result of its investigation of this incident, the Safety Board recommended that the FAA immediately brief all traffic controllers in the importance of complete and accurate coordination before allowing airplanes to taxi across an active runway, and to develop and implement specific procedures, standards, and responsibilities for use during coordination between controllers regarding requests and approval to taxi airplanes across an active runway. In partial response to these recommendations, the FAA issued a General Notice on April 29, 1985, directing facility managers to ensure that a thorough briefing is conducted with all operational personnel concerning the importance of complete and accurate coordination between local and ground controllers prior to taxiing airplanes across an active runway.

On September 24, 1985 an incident took place at Washington National Airport which again illustrates the increasing problem with Air Traffic Control (ATC) communications and procedures. The pilot of an Eastern Airlines B-727 shuttle was forced to reject his takeoff after reaching takeoff speed to avoid a collision with a helicopter which had also been cleared for takeoff just seconds earlier by a different controller on a different radio frequency. Fortunately, the pilot of the 727 managed to bring the Eastern jet to a stop in a safety area beyond the runway without injury to passengers. The helicopter pilot too perceived the pending collision and altered his course. Once again NTSB investigators determined that the coordination between the two controllers, their training and the clarity of communications with the helicopter were factors in this incident. As a result of this investigation several safety recommendations were developed and forwarded to the Administrator of the FAA.

In addition, as a result of the Safety Board's investigation of this and other runway incursion incidents, the FAA has informed the Board that the agency is taking positive action to investigate and identify the underlying factors common to these operational errors. This action is being taken with the goal to reduce the likelihood of recurrence of these runway incursion incidents.

General Aviation Crashworthiness

Steady progress in U.S. civil aviation safety over a quarter of a century, at least as measured by accident statistics, has tended to obscure a few important areas in which progress has been slow. The crashworthiness of the general aviation airplane -- the measure of its crash survivability -- is one of these areas.

Fuel tanks and fuel systems that are far less likely to produce post-crash fires have been in use in Army helicopters for 15 years, and significant advances have been made in seat and restraint system design and testing. The FAA has played a role in developing some of these improvements, yet little of this technology has been incorporated in general aviation airplanes.

Recommendations for improved general aviation crashworthiness date back to the Safety Board's predecessor agency, the Bureau of Safety of the Civil Aeronautics Board. The Safety Board picked up the campaign in 1970 and reinforced it with recommendations in 1975 and 1981. In 1981, the Safety Board conducted a broad study of general aviation crashworthiness, and concluded that the crashworthiness of the general aviation airplane was significantly inferior to that of the U.S. automobile.

FAA's response to the repeated calls for regulatory reform has been consistent. It has said that it could not tighten crash protection requirements because no one could define, with specific values, the "typical crash environment." In 1982, the Safety Board began an ambitious project to do just that.

Phase One of this project was completed in June 1984, with Board adoption of a report detailing the program and the investigative methods that could be used to define the typical crash environment. The Phase Two report, completed in March 1985, defined, for the first time, the limits of survivability in crashes of modern general aviation aircraft. Using data from over 500 crashes, the report defined the limits of survivability in terms of impact speed and impact angles. The report also demonstrated that the use of shoulder harnesses could result in 20 percent fewer fatalities and 88 percent fewer serious injuries.

In its Phase Three report, issued September 1985, the Board provided the numbers the FAA has insisted it must have to issue more stringent crash protection regulations. Thirty-nine of the specially-investigated accidents have provided Safety Board specialists with the information necessary to calculate "crash pulses" -- the duration and magnitude of crash loads and the associated velocity changes. With these data, FAA regulators and industry designers can determine both effective and economically feasible crashworthiness improvements. Five Safety recommendations to the FAA and industry accompanied this report. As a direct result of this crashworthiness project, the FAA, on November 13, 1985, issued a final rule requiring shoulder harnesses on all seats of general aviation aircraft manufactured after December 12, 1986.

General Aviation Accident Investigations

Each year, the Safety Board investigates more than 3,200 general aviation accidents which, although not as publicly visible as major airline accidents, do have a significant impact on aviation safety. For example, on October 30, 1984, while returning to his home base, the pilot of a Bell 206B helicopter experienced a separation of the 90-degree gearbox in the tail rotor assembly and crashed near Lane City, Texas. The investigation revealed that the separation had occurred as a result of the loss of a tail rotor blade tip block and the resultant imbalance. The tip block had separated due to galvanic corrosion between the blade's titanium skin and the aluminum rivets used to hold the block in place. The Safety Board investigated two other accidents involving this problem and uncovered at least 120 other cases where imminent failure necessitated the replacement of blades.

As a result of the Safety Board's investigation, joint meetings with the FAA Southwest Region Helicopter Certification Staff and Bell Helicopter were held with Board investigators to discuss ways of solving the problem. Following these meetings, Bell Helicopter immediately issued an Operations Safety Notice to reemphasize the existing inspection requirements on the tip blocks. Bell also issued an Alert Service Bulletin requiring replacement of all rivets with newly-designed titanium alloy rivets by May 15, 1985. In addition, the FAA issued an Airworthiness Directive which required the replacement of all aluminum rivets on Bell 206 aircraft.

In addition to these mandated general aviation accidents, the Safety Board provides its accident investigative and safety promotion expertise to other government agencies by investigating approximately 15 to 20 public use aircraft accidents each year. These accidents include aircraft owned and/or operated by local, state and federal government agencies. Through a memorandum of agreement, the Safety Board conducts an investigation into the facts, conditions and circumstances surrounding the aircraft accident. The Safety Board provides on-site and follow-up investigative support as well as preparing the final factual accident file and complete sequence of events and analysis of the accident circumstances.

Ultralight Vehicle Accidents

Since 1982, the operation of ultralight vehicles has been governed by 14 CFR Part 103, essentially on a self-regulating basis. Increasing numbers of reports of ultralights being operated in regulated airspace and for nonrecreational purposes made it apparent to the Safety Board that an evaluation of the effectiveness of the Federal Aviation Administration's (FAA) regulatory approach to ultralight operations was needed. In the absence of a systematic accident data collection process on which to base the analysis, the Safety Board in March 1983 decided to investigate all fatal accidents involving a powered ultralight and other selected powered ultralight accidents involving obvious safety issues. Between March 1983 and September 1984, the Safety Board investigated 177 ultralight accidents, of which 88 involved a total of 93 fatalities. The Safety Board issued a report which described the safety problems identified through analyses of these accidents, explored safety concerns raised by organizations and associations interested in ultralights, and recommended that the FAA tighten existing ultralight safety measures.

The ultralight accidents investigated by the Safety Board suggested that there were serious deficiencies in:

- the aeronautical knowledge and skills of ultralight operators;
- the design, construction, and maintenance of ultralight vehicles;
- the notification of ultralight owners about safety defects; and
- the rules governing the operation of ultralight vehicles.

Although voluntary programs to address these safety problems existed within the aviation community, participation of ultralight owners, operators, and manufacturers was very limited, making this voluntary approach seem inadequate. The Safety Board concluded that the potential for serious harm to the public was sufficient to recommend including ultralights under 14 CFR Part 91-General Operating and Flight Rules, which govern the operation of all aircraft in the United States and requiring minimum standards for pilot training and certification, vehicle registration, and vehicle airworthiness certification. The levels of the standards incorporated in the voluntary industry-sponsored programs appeared to be appropriate levels for ultralight vehicle and operator certification; however, making compliance with these standards mandatory is necessary in order to address adequately ultralight safety issues.

Foreign Accident Investigations

Despite the fact that the aviation industry has enjoyed a remarkable safety record, the statistics indicate that 1985, in terms of lives lost, was the worst year of the 1980s and the second worst year ever for U.S. commercial air carriers and other operators of large aircraft. There were 24 accidents involving these carriers, seven of which were fatal, resulting in the loss of 526 lives. The picture is even more distressing with the addition of foreign carrier accidents, the most notable being the Air India B-747, the Japan Airlines B-747, the British Air Tours B-737, and the Royal Jordanian Airlines L-1011. Over 900 lives were lost as a result of these accidents alone.

Because of the growing number of U.S. manufactured airplanes, and the growing number of U.S. registered airplanes operating overseas, U.S. manufacturers and operators rely heavily upon the NTSB Accredited Representative to facilitate their involvement in foreign incidents and accidents because of the Board's status as the only recognized entity under the provisions of International Civil Aviation Organization Annex 13. Even though a significant amount of the Board's resources is devoted to these foreign investigations, especially in years of large numbers of major accidents, such as 1985, the Board's involvement provides a critical contribution both to U.S. foreign relations and to the U.S. aviation economy overseas.

NTSB accredited representatives participated fully in a total of 19 foreign accident investigations involving U.S. manufactured and U.S. registered aircraft during 1985. During its investigation of these foreign accidents, Safety Board investigators developed 17 safety recommendations which resulted in the issuance of a combination of service bulletins, procedural changes, and airworthiness directives affecting aircraft design, maintenance and operational factors.

Air Carrier Overwater Emergency Equipment and Procedures

As a result of a Safety Study of survivable air carrier water impact accidents worldwide, the Safety Board determined that the chances of surviving air carrier accidents into water would be increased if Federal Aviation Administration (FAA) emergency procedures and FAA-approved survival equipment were improved. Current procedures and equipment are designed on the assumption that air carrier water contact accidents are primarily ditchings, a water accident characterized by at least some preparation time and relatively little aircraft damage. However, a review of air carrier water contact accidents between 1959 and 1984 shows that such accidents are typically inadvertent, with no preparation time, substantial aircraft damage, and a high chance of occupant injury. Often the cabin floods quickly, followed by sinking of the aircraft within minutes. Typically, these accidents do not occur on an "extended overwater flight" (the type of operation to which most FAA water survival regulations currently apply) but close to an airport, during approach or departure. At least 179 fully certificated airports in the United States are located within 5 miles of a significant body of water. The Board recommended that the FAA require both life preservers and flotation seat cushions on all air carrier flights, and asked for improvements in life preserver design, packaging, accessibility, and ease of donning. Other recommendations dealt with emergency evacuation slides, liferafts, flotation devices for infants, crew post-crash survival training, and water rescue plans at airports near water.

On December 10, 1985, the FAA reported that, in response to seven of the Board's recommendations concerning life preservers, the FAA has proposed a new Technical Standard Order (TSO) which would improve the performance and usage of these devices. In response to another recommendation, the FAA has proposed the development of a TSO which would require a quick release girt and handholds on emergency evacuation slides. Additionally, the FAA is engaged in a broad scale review of all aspects of cabin safety which includes hands-on "wet" training drills for crewmembers, and a feasibility study on providing specific performance standards for infant flotation devices.

Airline Passenger Safety Education

Because of recurrent concerns about the extent and quality of safety information briefings provided to air carrier passengers before takeoff, the Safety Board initiated and completed a Safety Study on this matter. The study provides a comprehensive review of Safety Board investigations, studies, and recommendations, Civil Aeronautics Board (CAB) studies and recommendations; the chronology of FAA rulemaking actions; and attempts within the industry to improve safety briefing methods. Each of these reviews provides a different perspective on the four methods of imparting safety information to passengers, i.e., oral briefings, demonstrations, safety cards, and videotaped briefings. These methods of passenger indoctrination are also reviewed with respect to such instructions as seatbelt and oxygen mask use and the location of emergency exits. Throughout, FAA and industry-recommended guidelines are compared to determine how well these guidelines are being followed.

The Board presented its views on passenger education during a 1984 FAA-sponsored symposium on cabin safety conducted by the Flight Safety Foundation which enhanced industry awareness of the need for improvements in providing safety information to passengers. Additionally, a survey was conducted of airlines, employee associations, and passenger groups to elicit their suggestions on ways to improve upon passenger acceptance of safety information briefings as well as ways to improve upon the manner of presentation and content of the information. Views also were sought on the merits of training passengers who fly frequently on air carriers to form a cadre of persons who could assist the airplane crew in the event of an emergency.

The study identifies problem areas, inconsistencies, and shortcomings in current methods. However, it does not attempt to present an in-depth assessment of the adequacy of each method. Rather, it reports subjective observations as to the apparent efficacy of each method. The study presents for the first time a systematic review of the efforts to improve the content and methods of providing safety information to passengers and places into historical perspective what has been done, what is presently being done, and what needs to be done to cause improvements to be made in this area.

The Safety Board believes that the findings of this study reinforce further the need for a concerted government-industry appraisal of the methods of conveying safety information to passengers. Further, the Safety Board is more firmly convinced of the validity of its earlier recommendations to the FAA and that an appraisal should be initiated without further delay for both Part 121 and 135 operations. Consequently, three previous recommendations were reiterated to the FAA, twelve new safety recommendations were made to the FAA, and three new recommendations were made to the airline industry. These recommendations include researching passenger motivation, improving the understandability of safety information, publishing definitive guidance on the development of the safety cards and videotaped briefings, improving flight attendant training, and improving the training of FAA inspectors who are responsible for approving air carrier safety briefings.

RAILROAD

Alcohol and Drug Use by Railroad Traincrews

For years the Safety Board has pushed for action to reduce alcohol and drug abuse by railroad crewmembers. In 1982, the Board addressed its concern at major railroad safety conferences. In 1983, the Board issued updated recommendations seeking action by the Federal Railroad Administration (FRA), the Association of American Railroads, the Railway Labor Executives Association, and other organizations to address this important safety issue.

In September 1983, at Sullivan, Indiana, a speeding Seaboard System Railroad freight train, operated by an unqualified head brakeman, crashed into the rear of another train, killing the conductor and rear brakeman who were in the caboose. The engineer and head brakeman of the overtaking train were injured, but survived. Based on blood samples drawn after the accident, the Safety Board calculated that the engineer's blood alcohol level at the time of the accident was 0.33, and the head brakeman's was 0.11. A broken bottle of 80-proof vodka was found in the locomotive cab.

In April 1984, on the Burlington Northern Railroad, there were two alcohol/drug related collisions within 9 days that killed seven crewmembers, injured four others, and caused more than $5.2 million in property damage.

In June 1984, as part of its investigation of these two accidents, the Safety Board conducted a public hearing in Denver, Colorado, which focused on this important safety issue. Following this hearing, the Board presented the case for strong measures to eliminate alcohol and drug abuse by railroad crewmembers to Congress in an appearance before the Surface Transportation Subcommittee of the Senate Committee on Commerce, Science and Transportation. Six days after the Board's Congressional testimony, the FRA issued its Notice of Proposed Rulemaking on "Control of Alcohol and Drug Abuse in Railroad Operations."

The Safety Board supported the proposed rulemaking as consistent with its recommendations but urged certain improvements which are outlined in the Safety Objectives section of this document. These improvements were addressed, to a large degree, by the FRA in its final rule.

The FRA's recently completed and approved alcohol and drug regulations, issued on July 31, 1985, come 12 years after the Safety Board first called for such rules.

Rail Rapid Transit Safety

On March 17, 1984, a New York City Transit Authority (NYCTA) train derailed in a tunnel under the East River along a section of track that was under repair. Although the accident was near the Brooklyn Bridge Station, it took more than 3 hours to evacuate the 1,500 people aboard the train. The Safety Board conducted a 3-day public hearing focusing on the evacuation and on NYCTA engineering specifications and procedures for the inspection of track that is under repair.

Recurrent subway fires also have plagued the NYCTA system. In October 1984, according to a Safety Board check of NYCTA system records, there were 335 track and structure fires, 8 electrical fires, and 226 car equipment fires. Although the majority of these were trash fires, it was necessary for the New York City Fire Department to respond to 48 subway fires during the month.

To develop a more precise perspective of the NYCTA fire safety problem, the Board, in December 1984, applied its "go-team" techniques by dispatching a team for an unprecedented week-long investigation of fires in the city's subway system. "Working groups" were organized in five areas -- mechanical, engineering, operations, emergency response, and fire incident data. A dozen investigators from the Board's staff investigated and documented 133 of the 173 fire and smoke incidents that occurred on the system between December 10 and December 17.

The Safety Board's report, issued in October 1985, documented the following fire situation on the NYCTA system:

- Fire Incident Data Collection -- The NYCTA has two data collection systems that are fragmented, inaccurate, and are inadequate for use in making safety assessments.

- Trash in Tunnels -- Most of the fires result from trash that has been allowed to accumulate between the tracks and around the third rail in subway tunnels. Trash pickup and removal has been inadequate. Open containers of flammable materials have been allowed to be stored in subway tunnels.

- Emergency Response and Equipment -- The NYCTA often has delayed reporting of fires to the New York City Fire Department (NYFD). Firefighters do not understand the proper method to remove third-rail power in an emergency. Some fire extinguishers in subway tunnels are empty and others are missing from their designated locations. Subway cars do not have fire extinguishers. There often is poor communciation between NYCTA and NYFD personnel. Firefighters do not have maps of the tunnel and track locations. Some emergency exits are unusable, and the NYCTA and NYFD do not know the conditions of all exits on a current basis.

- Car Equipment Fires -- Many fires begin in the motor control groups on subway cars. The NYCTA has inadequate maintenance and inspection practices for its cars. NYCTA practices concerning the procurement, inspection, and distribution of parts contribute to frequent failure/fire incidents.

- Training -- A sufficient number of employees have not been trained in car maintenance and inspection to eliminate car maintenance deficiencies.

- Safety Oversight -- Self-regulation by the NYCTA has not brought the changes necessary to improve for safety.

To correct these situations the Safety Board made 14 recommendations to the NYCTA suggesting that it implement an immediate one-time cleanup of the subway tunnels, remove all stored flammable materials in tunnels, provide fire extinguishers at designated locations in the subways, train its command center personnel in the terminology used by the NYFD, provide the NYFD with maps of the NYCTA system emergency exits and correlate subway track locations with street locations, establish a safe procedure fo the NYFD to use in an emergency to remove third-rail power, develop procedures to notify the NYFD when an emergency exit is not usable, prohibit the resetting of transit car motor control units, install NYFD approved standpipe systems for fighting fires in subway stations, and improve its training program for employees engaged in the installation, inspection and repair of motor control units. In additon, one recommendation was made to the NYFD to cooperate with the NYCTA in developing the recommended changes, and to the New York State Public Transportation Safety Board to require the NYCTA to establish an action plan for implementation of the 14 safety recommendations.

In addition to the Safety Board's emphasis on safety improvements in New York City's subway system, similar Board efforts have achieved significant safety enhancements in Washington, D.C.'s Metro subway system.

As a result of the Safety Board's recommendations following its investigation of the derailment of a Washington Metropolitan Area Transit Authority (WMATA) train on January 1982 in which three passengers died, the WMATA has begun installing emergency handles near center doors of subway cars which will allow passengers to escape quickly if an accident or a fire occurs. The new devices are for use in the event of a fire, dense smoke or other immediate life threatening emergencies, and will be installed in all Metro cars within a year.

In addition to the new emergency door handles, WMATA is also posting emergency and evacuation instructions on each car and distributing pamphlets in all Metrorail stations which provide information and instructions on emergency evaluation procedures.

With a better informed public and additional emergency evacuation alternatives, mass transportation safety in Washington has been improved substantially.

HIGHWAY

Child Passenger Safety

Between 1980 and 1984, more than 3,000 children under age 5 were killed in motor vehicle accidents and more than a quarter of a million were injured. This toll exceeded that of all of the common childhood diseases combined for the same period.

The loss was all the more tragic because it was largely needless. Studies indicate that between 65 and 75 percent of the fatalities and 40 to 50 percent of the injuries could have been prevented by the proper use of a child safety seat.

After the enactment of a pioneering child safety seat law in Tennessee in 1977, other States began to pass similar laws. By late 1982, such laws had been enacted in 19 States, but most of the nation's young remained unprotected.

In 1982, the Safety Board launched a special investigation that dramatically demonstrated that children secured in safety seats could remain unharmed in motor vehicle accidents that kill or severely injure their parents. The Board investigated 53 accidents and found dramatic differences in the injuries to infants and small children who did and did not have safety seat protection. On December 7, 1982, the Safety Board recommended legislative action in the remaining 31 States and the District of Columbia, and also urged the adoption of comprehensive, statewide child passenger safety programs to enhance the effectiveness of the new laws.

In early 1983, the Board conducted three regional public hearings on child passenger safety to focus attention on the problem and to encourage action to reduce fatalities and injuries to infants and small children involved in accidents. At the end of 1983, the Safety Board published the results of its Safety Study on child passenger protection based on these hearings and the Board's special investigations. As a result of its study, the Board issued 10 safety recommendations specifically aimed at combating misuse.

Now all 50 States and the District of Columbia have child passenger protection laws. The Board was instrumental in the adoption of many of the new statutes, providing testimony, accident case histories, and amplifying details of its 1982-83 study. The Safety Board's goal of a nationwide requirement for child safety seat protection clearly has been achieved. More importantly, child passenger fatalities are decreasing. According to data from the Fatal Accident Reporting System of the National Highway Traffic Safety Administration (NHTSA), 484 child passengers under the age of 5 were killed in motor vehicle accidents during 1984 compared to 598 in 1983 and 606 in 1982. The number of fatalities among older child passengers, typically not covered by State child restraint laws, did not show a similar decline.

The Board has worked closely with State officials, child passenger safety groups, and safety seat manufacturers to increase child restraint use. Almost half of the child passengers under age 5, observed in a Federal 19-city survey, were secured in safety seats, compared to 44.2 percent in 1983 and only 15.2 percent in 1979. Despite this progress, additional efforts are needed to ensure the proper use of these important safety devices.

Unfortunately, misuse is a significant and widespread problem. The Board's September 1983 Safety Study that so dramatically showed the need for child safety seats also demonstrated that those that were in place often were being misused. Only 6 of the 34 seats in use in cars involved in accidents investigated by the Board were being used correctly. A recent survey suggested that safety seats are misused about 65 percent of the time.

In January of 1985 the Safety Board conducted a one-day symposium during which child passenger safety experts provided ideas on how to increase use and decrease misuse of child safety seats. The symposium included major addresses on the problems of enforcing existing State child passenger protection laws and the difficulties of translating laboratory crash test data on misused safety seats into real-life expectations. Small discussion groups considered ways to decrease misuse and increase use of child safety seats. Following the symposium, the Safety Board issued a report summarizing the symposium and issued safety recommendations to the governors of the 50 States and to the National Highway Traffic Safety Administration to improve the collection of data regarding use and misuse of child safety seats. The Safety Objectives section of the budget contains additional information regarding Safety Board activities in this area.

Alcohol and Highway Safety

During 1984, the Safety Board issued two Safety Study reports directed at various aspects of the drunk driver problem. On April 3, the Board issued "Deterrence of Drunk Driving: The Role of Sobriety Checkpoints and Administrative License Revocation," which reviewed recent national and international efforts to control drunk driving. The study concluded that "general deterrence" programs afford the most promising approach for the short-term reduction of alcohol-related deaths and injuries on our highways. The study further indicated that sobriety checkpoints and administrative license revocation procedures potentially may be the most effective deterrent countermeasures now available.

The Board issued recommendations to the States to adopt both countermeasures. At the time the study was completed, 21 States or jurisdictions employed sobriety checkpoints; the same number utilized administrative license revocation procedures. Since the Board issued its general deterrence recommendations, 18 additional States have begun using sobriety checkpoints, and two more States have passed laws authorizing administrative license revocations.

In 1984, there were 44,241 persons killed on U.S. highways. NHTSA studies indicate that the rate of alcohol involvement in these accidents was 53 percent and that 30 percent of the 773,000 persons convicted of drunk driving each year are "repeat offenders." On September 18, 1984, the Safety Board issued a Safety Study documenting flaws in the enforcement, judicial, and alcohol treatment systems which may contribute to recidivism among drunk drivers.

In reviewing this important safety issue, the Safety Board conducted overviews of statewide alcohol education/treatment programs and local enforcement and judicial systems. The Board also investigated 51 fatal accidents involving drunk drivers, a majority of which were repeat offenders. The investigations included an in-depth exploration of previous DWI arrests, convictions, and sentences, and interviews with convicted repeat-offender drunk drivers to explore what, if anything, could have been done at the time of the previous offense to have prevented the most recent offense.

As a result of this study, the Safety Board issued 10 safety recommendations to the States, and several to NHTSA and to national judicial organizations that identified improvements needed for correcting system failures in this area.

In March 1985, citing the importance of a long-term prevention strategy to improve transportation safety, the Safety Board conducted a Public Forum on Alcohol Safety Education to encourage increased attention on efforts to curb the effects of alcohol and other drug abuse on our nation's transportation operations in the future.

Recognizing that accurate and reliable information on the extent of alcohol involvement in highway crashes is critical to both the allocation of countermeasure program resources and to the evaluation of program effectiveness, the Safety Board in 1985 conducted a review of state alcohol testing and reporting systems. For the latest complete reporting year, 1983, the Safety Board found that only 13 states and the District of Columbia measured and reported the blood alcohol concentrations of more than 80% of the fatally injured drivers in their jurisdictions. Based on the evidence collected, the Board believes that the information required to make objective policy and program decisions by state and local officials is both incomplete and potentially misleading in many states. As a result, the Safety Board issued recommendations to the States and the National Highway Traffic Safety Administration designed to achieve more complete alcohol testing of all drivers involved in fatal highway crashes.

MARINE

Search and Rescue

The Safety Board conducted a 2 day public hearing in Portsmouth, Virginia, in December 1984, as part of its investigation into the disappearance of the AMAZING GRACE, an 80-foot fishing vessel with a crew of seven. One of the areas examined was the misrouting of a report to the Coast Guard that a liferaft had been found, and the extent of the resulting delay in resumption of the search. Another was the Coast Guard's methods of determining the probability of detection for each day's search.

It was tragically clear that had an Emergency Position Indicating Radio Beacon (EPIRB) been aboard the AMAZING GRACE, it well could have led searchers promptly to the scene of the sinking, and made the rescue of any surviving crewmembers possible. In its April 1980 report on a fishing vessel sinking off Point Judith, Rhode Island, the Safety Board had recommended that the Coast Guard seek authority to require EPIRBs on all documented U.S. fishing vessels. The Board urged that, in the interim, the Coast Guard use all available means to encourage their voluntary use.

On September 19, 1985, in response to a Safety Board followup letter on the Board's EPIRB recommendation, the Coast Guard said that it will seek legislative authority to require EPIRBs on documented U.S. fishing vessels. In the interim, the Coast Guard indicated that it will continue to stress the importance of carrying EPIRBs on fishing vessels. Currently, Coast Guard District Commanders are required to encourage personnel on fishing vessels going more than twenty miles off shore to carry EPIRBs. The Coast Guard's position on this subject was reiterated in Navigation and Vessel Inspection Circular (NVIC) 6-85, dated June 4, 1985. This NVIC provides guidance for voluntary minimum standards for radio and shipboard navigation equipment on documented U.S. fishing vessels. The Safety Board believes this guidance for EPIRBs needs to be made mandatory.

In the 6 years since the Safety Board made its recommendation, about 1,250 fishing vessels and more than 250 lives have been lost in accidents. Although the Coast Guard has actively promoted the voluntary use of EPIRBs on fishing vessels, most fishing vessels still do not carry them. EPIRBs can be purchased at a cost of about $150 - $300 each, and it is estimated that the expense of outfitting the entire fishing fleet of approximately 23,000 documented U.S. fishing vessels with EPIRBs would be about $10 million. The search for the AMAZING GRACE, directed by the Coast Guard, lasted 16 days and involved elements of the U.S. Navy and U.S. Air Force, at an estimated cost of $12 million. The Safety Board continues to support the need for immediate EPIRB legislation based on the conviction that EPIRBS could very well save lives that otherwise would be lost and that they are cost-effective in relation to the cost of accident search and rescue operations.

Alcohol and Recreational Boating

As recreational boats and individuals using them continue to proliferate, the potential for more accidents, injuries, and fatalities increases. With an estimated 15 million recreational boats and as many as 50 million people participating in this activity, the potential for safety problems is enormous. The use of alcohol in this environment compounds the possibility for tragedy.

During its study of the role of alcohol in recreational boating accidents, fatalities, and injuries, the Safety Board found that the Coast Guard and State boating law authorities suspect alcohol use to be a major factor in the high number of recreational boating fatalities. However, representative and credible national statistics are not available. Several factors affect the national statistics issued by the Coast Guard, including the fact that:

- Not all accidents are reported to the States or to the Coast Guard.
- Compliance with reporting requirements varies by location and is influenced by Coast Guard and State enforcement practices and programs.
- Boating accident reports usually are completed by the person involved in the accident or next of kin, who may not provide accurate and objective information about the accident.
- Only in approximately 25 percent of the fatal accidents investigated by the Coast Guard is there any assurance of verification of injuries, property damage, or definitive primary and secondary causes.

Nationally, there are no uniform reporting requirements or guidelines for collecting information on the use of alcohol in recreational boating accidents. To correct this, the Safety Board recommended that the Coast Guard and the National Association of State Boating Law Administrators revise boating accident report forms to include "excessive drinking" as a specific factor to be reported.

In response, the Coast Guard has agreed to promote improved accident investigation procedures which will make investigators more aware of the potential contributions of alcohol to accidents. The Coast Guard will urge State adoption of standard accident investigation reports to facilitate uniform reporting of information on alcohol involvement.

As of the date of the Safety Board's study, forty-eight states and the District of Columbia made operating a vessel under the influence of alcohol illegal. Unfortunately, 39 States did not define "intoxication." The Board urged adoption of a clearly defined blood alcohol level for intoxication, such as is applied to highway vehicle operators. In addition, the Safety Board recommended that States adopt legislation to allow a chemical test of blood, breath, or urine if a recreational boater is suspected of being intoxicated.

Response to the Board's recommendations has been most favorable. The National Association of State Boating Law Administrators drafted State guidelines which included specific prohibitions against operating a boat while intoxicated; a physical standard defining legal intoxication; and an "implied consent" provision requiring persons reasonably suspected of operating a boat while intoxicated to submit to a specified test for intoxication. In addition, 16 States introduced legislation in 1985 which was in keeping with the Safety Board's recommendations, and 22 other States are considering proposing such legislation or studying proposals for possible further action in 1986.

Since the Safety Board's initial report was issued, 13 States have taken action in keeping with intent of the Board's safety recommendations.

HAZARDOUS MATERIALS

DOT Toxic Material Classification

On December 19, 1984, the Safety Board pointed out in a letter to the Department of Transportation (DOT) that, under DOT's existing classification of hazardous materials, methyl isocyanate (MIC), the toxic chemical released at Bhopal, India, resulting in the death of more than 2,000 people, could be shipped by rail in the United States in the least protected of tank cars. Although Union Carbide, the only U.S. manufacturer and shipper of MIC, has acted to control its safe distribution by choosing to ship it in double-walled, insulated, stainless steel cars, this is not true of other materials which pose similar toxic threats.

Because of the threat of such materials to public safety, the Board recommended that DOT's hazard identification and classification system identify more completely the hazards posed to life and health by each hazardous material during normal transportation and during emergencies. This information will influence decisions made about the level of protection which should be provided by containers used in transporting these materials and public safety protection measures which should be imposed at accident sites.

The Board noted that of five safety recommendations it had made over a 9-year period, one was particularly appropriate in the aftermath of the Bhopal catastrophe. The recommendation urged a review of Class A poisons and specialty products to determine if their toxicity hazards required that they be transported only in tank cars with head shields and thermal insulation.

The Federal Railroad Administration promised such a review, but in a rulemaking completed in January 1984, it did not assess the hazards to public safety of the toxicity of transported materials.

In its December 19, 1984, letter to DOT's Research and Special Programs Administration (RSPA), the Safety Board urged that priority action be taken to identify those materials now being transported that can pose life-threatening hazards to the public because of their toxicity, not just their flammability.

The DOT responded promptly by releasing a Notice of Proposed Rulemaking on February 4, 1985, which proposed special packaging and more stringent placarding requirements for certain poisonous liquids based on their potential inhalation hazards.

While the Safety Board was pleased with DOT's prompt initial action, in a March 1985 letter to RSPA, the Board expressed its concern that the proposal addressed only some of the safety issues raised in its December 1984 letter, and that it remains concerned that (1) many toxic materials (specifically solid and gaseous materials) are not covered by this proposal, (2) the proposed hazard identification process will not be integrated into the hazard classification system, (3) the scientific basis for the proposal is imprecise, and (4) a new exemption process is being added. In its comments to the proposed rulemaking, the Safety Board urged the DOT to consider these items of concern and to develop accurate classification standards based on scientific findings which reflect the range of potential hazards associated with the transportation of hazardous materials.

Although the final rule, issued by the DOT on October 3, 1985, failed to address adequately almost all of the safety issues raised by the Board, for the first time the risks posed to public safety and health by toxic materials in transportation formally have been recognized by the DOT. The Board believes this is a good first step. Unfortunately, the DOT chose not to resolve deficiencies in its hazard classification system and in so doing it failed to address adequately the problem of toxic liquids and failed to acknowledge the toxic problem of certain materials in the solid and gaseous states as well.

Rail Tank Car Safety

For years, the Safety Board has pushed for increased crash protection for railroad tank cars used to transport hazardous materials.

On January 27, 1984, as a result of these efforts, the Federal Railroad Administration (FRA) and the Materials Transportation Bureau (MTB) issued a Notice of Proposed Rulemaking to require by December 31, 1986, the retrofit with head shields and/or thermal protection of approximately 3,000 DOT 105 tank cars which transport flammable gases, anhydrous ammonia, or ethylene oxide -- a flammable liquid.

While the Safety Board concurs in the proposed retrofit, it is concerned that the increased protection was mandated only for tanks with capacities greater than 18,500 gallons and excludes other tank cars that also transport high-hazard commodities such as fuming acids, other high-hazard flammable liquids, and toxic materials.

Although the rulemaking action did indicate that there would be a continuing evaluation of the need for increased protection for those tank cars transporting hazardous materials, several accidents investigated by the Safety Board since the rulemaking underscore the need for early action to upgrade the protection of these tank cars.

One of these accidents occurred April 10, 1984, when an eastbound Seaboard System Railroad freight train entered Marshville, North Carolina, at 35 mph. As the train's automatic air brake system went into emergency operation, the train separated and 18 cars derailed with 1 striking and entering an unoccupied building. During the derailment, two tank cars loaded with methanol were struck on their bottom outlet nozzles, and the bottoms of their shells were torn open. The released methanol was ignited, and the fire spread and destroyed three nearby buildings and four parked automobiles. An estimated 2,100 persons within a 1 mile radius of the accident area were evacuated, and nearby U.S. Highway 74 was closed until the fire subsided.

A second of these accidents occurred on April 3, 1983, when a Denver and Rio Grande Western Railroad Company freight train was being switched, a coupler broke, and the end of an aluminum tank car containing nitric acid was punctured. More than 9,000 persons in this metropolitan area were evacuated, travel in this area was restricted for an undetermined number of people, and 34 persons were injured. Based on the findings of this accident, the Board recommended that the DOT conduct a full testing and evaluation program to develop head shield protection for DOT specification aluminum tank cars.

A third such accident occurred near Jackson, South Carolina, on February 23, 1985, when a Seaboard System Railroad freight train traveling at 53 mph struck a piece of equipment dropped from a previous train and derailed 27 cars, 8 laden with cyclohexane. Five of the 8 tank cars transporting hazardous materials and equipped only with shelf couplers received punctures in the heads of the tanks. Hazardous material flowing from these punctures was ignited immediately and posed threats to the lives of residences within a 1-mile radius of the derailment. While none of the residents of this sparsely populated area were injured or killed, this accident demonstrates the inability of shelf couplers alone to minimize the potential of derailing cars from puncturing the ends of tank cars. In its report on this accident, the Board recommended that the DOT require head puncture protection for all tank cars transporting hazardous materials that require isolation distances of one-half mile or more as recommended by the DOT's Emergency Response Guidebook.

The Safety Board will continue to investigate this type of accident in order to evaluate the extent to which tank cars without effective protection are being used to carry materials capable of endangering the public.

In addition, the Board will seek the active support of the Association of American Railroads and the Chemical Manufacturers Association for its efforts to encourage the DOT to pursue a comprehensive review of those materials which should be carried only in tank cars with thermal and/or tank head protection.

Safety Board investigation of recent accidents at Missouri Pacific Railroad's railroad yard at North Little Rock, Arkansas, and at Conrail's railroad yard at Elkhart, Indiana, identified design deficiencies in the rail cars involved that were serious enough to cause the removal of more than 10,000 tank cars from hazardous materials service. In the December 31, 1984, accident at North Little Rock, it was determined that since 1971 the General American Transportation Corporation had constructed many of its tank cars in a manner which did not comply with Federal standards by attaching an anti-shift bracket directly to the bottom of the tank. This bracket allowed dynamic forces to be transferred to the tank shell which resulted in the cracking of the tank and the release of hazardous product from the tank. In the February 4, 1985, accident at Elkhart, a 12-inch fracture occurred in the tank head at its connection with the tank car stub sill. Inspection of other similar cars also revealed cracks forming at virtually the same location and, as a result, all tank cars built to the same specifications were voluntarily removed from service by their owners. As a result of these Safety Board findings, many potentially hazardous tank cars are undergoing extraordinary inspections and repairs.

PIPELINE

Hidden Hazard

As urban areas continue to expand and undeveloped areas are taken over by subdivision developers, residences are being built near or directly over pipelines that carry hazardous materials, and in many cases, new home owners in these areas are unaware of their existence and of the dangers of digging on their property.

For example, in 1960 the Mid-America Pipeline Company built an 8-inch-diameter liquefied natural gas pipeline through undeveloped land near West Odessa, Texas, and obtained a permanent easement to keep clear 25 feet of land on either side of it. However, in 1981, the land was subdivided and, on one lot a mobile home was placed about 10 feet from the pipeline. In March 1983, a power auger struck the pipe while it was being used to drill holes for planting trees around the mobile home.

Although the company had exceeded Federal requirements for marking the line, Board investigators found that many of the residents of the subdivision were unaware of the pipeline's existence, and of its potential hazard. The lot owner, who with five others was killed in the explosion and fire caused by the auger gouging the pipe, had received no written information about the pipeline easement, nor had other purchasers of lots in the subdivision.

As a result of this investigation, the Board recommended that the Transportation Research Board of the National Academy of Sciences study the adequacy of existing public policy in preventing new developments over or near existing pipelines used to move hazardous materials, and develop recommended policy wherever needed. The Board said that the Academy's Research Board was better able to conduct the extensive research needed in such a study.

In response to the Safety Board's recommendation, the Transportation Research Board's Executive Committee met in January 1985 and approved a task force to consider the Safety Board's recommendations. The committee will report its findings and recommendations in 1986 on whether the study should be undertaken. The American Society of Civil Engineers also has expressed an interest in conducting research on the Safety Board's recommendations, and has offered its assistance in the evaluation of this increasingly dangerous safety problem.

Plastic Pipe

In a June 1984 report, the Safety Board found that the failure of a substandard joint between lengths of plastic pipe that had been joined only a year earlier had caused the July 1983 natural gas explosion and fire that destroyed an apartment building in Clear Lake, Iowa. The joint appeared to be properly fused, and had passed a pressure test before the pipe was put in service. But it proved to be a "cold weld" that resulted from insufficient heat or pressure, or insufficient time for the fusion to "cure."

The Safety Board recommended that the American Gas Association (AGA) urge its member companies to reevaluate their plastic pipe fusion procedures, and to be sure personnel responsible for them are following procedures explicitly. The AGA reported in October 1984 that it had contacted its member companies, and that utility representatives were continuing to work with the Gas Research Institute on guidelines for fusion of joints and on satisfactory nondestructive testing of fusion joints.

In September 1984, an explosion and a natural gas-fed fire destroyed two apartments in Phoenix, Arizona. Twelve persons were injured; five of them later died. In its June 1985 report, the Safety Board determined that the probable cause of the accident was the deterioration and rupture of a 1 1/4-inch ABS plastic pipe. Results of tests made on the pipe fracture revealed that the pipe had deteriorated from a chemical reaction between the ABS plastic pipe and a liquid that had settled along the bottom of the pipe. The internal cracks produced by this chemical reaction eventually spread through the pipe wall until, finally, the remaining pipe wall thickness could no longer contain the internal pressure.

The Safety Board is concerned that the problem with ABS plastic pipe revealed in this accident may exist in many other natural gas distribution systems nationwide, and that other types of plastic pipe currently in use in gas distribution systems may have incurred internal failures similar to the failure in this accident. However, it is impossible to determine the extent of the problem nationwide because the accident reports filed with DOT's Materials Transportation Bureau prior to July 1, 1984, do not identify the type of plastic pipe involved or the specific cause of failure, and few operators voluntarily report this information. The DOT's new incident report forms, which became effective on July 1, 1984, refer specifically only to polyethylene plastic pipe. Therefore, an operator who experiences an ABS plastic pipe failure must check a box on the form designated as "other" and describe the specific type of plastic pipe elsewhere on the incident report form; this does not encourage reporting and provides an opportunity for errors.

As a result of its investigation of this accident, the Safety Board recommended that the DOT's Research and Special Programs Administration establish a program to determine whether the problem of chemically-induced ABS plastic pipe failure is nationwide, publish and distribute ABS plastic pipe failure data to gas operators nationwide, and develop recommended methods of eliminating such failures. The Board also recommended that the Plastic Pipe Institute, in cooperation with the American Gas Association and others, determine what materials present in natural gas distribution systems could adversely affect ABS plastic pipe and what, if any, remedial actions should be taken, and publish and distribute this information to gas operators nationwide.

INTERMODAL

Railroad/Highway Grade Crossing Safety

The Safety Board has been involved actively in supporting the Operation Lifesaver program for railroad/highway grade crossing safety for many years. In 1977, as a result of its investigation of a rail/highway grade crossing accident in Des Moines, Iowa, the Board issued six recommendations calling for a cooperative effort between the Association of American Railroads, the National Highway Traffic Safety Administration, the Federal Highway Administration, the Federal Railroad Administration, the International Association of Chiefs of Police, and the National Safety Council to establish a nationwide Operation Lifesaver program in which each State would participate. In the years since the recommendations were issued, the Board has made a number of recommendations to individual States to adopt the Operation Lifesaver program and become a part of the national effort. With the announcements by Maryland, Wisconsin and Delaware of their adoption of the program during fiscal year 1985, 47 of the 48 continental United States have active Operation Lifesaver programs.

The dramatic reduction of railroad/highway grade crossing fatalities is a result of the Safety Board's 1977 recommendation that the National Safety Council be the focal point of the nationwide effort and of the Board's continued interest in and support of the program.

The Board's individual grade crossing accident investigations also have produced significant, immediate safety improvements. For example, as a result of a railroad/highway grade crossing accident involving a tractor-lowboy semitrailer combination that had become lodged on the railroad track at a crossing in Rowland, North Carolina, in August of 1983, the Safety Board issued safety recommendations to the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation

Officials (AASHTO). These recommendations dealt with the need to alert motor carriers of the potential hazards of grade crossings having steep surface hump profiles and with the actual design of grade crossing profile sections. Both the FHWA and AASHTO have responded favorably to these recommendations and are continuing efforts to follow them.

More recently, on April 17, 1985, an AMTRAK passenger train struck a 1982 Ford Mustang at the Pierson Lane crossing in Windsor, Connecticut. The driver of the automobile was fatally injured, and the passenger received minor injuries. The automobile was destroyed. The traincrew and passengers were not injured, and there was no damage to the train.

The Pierson Lane crossing is protected by flashers and bells. However, the approach circuit activating the crossing protection is only 85 feet from the crossing. Under these circumstances, AMTRAK requires that trains approaching the crossing stop while a member of the crew protects the crossing in advance of any train movement. The investigation revealed that the train did not stop nor did a member of the crew protect the crossing.

As a result of the Safety Board's investigation, crossing gates were installed at Pierson Lane and at the remaining crossings on the Springfield Line. In addition, the approach circuits activating the gates were lengthened to 2,051 feet. The installation of the crossing gates and the lengthened approach circuits will provide highway traffic with better warning of approaching trains.

Further, as a result of the Safety Board investigation, AMTRAK has required that a flagman be positioned at all crossings with short approach circuits. Additional information on grade crossing safety is provided in the Safety Studies section of the budget.

MANAGEMENT ACCOMPLISHMENTS

The Board continually is implementing management improvements, increasing its productivity, and looking for other ways to maximize its resources in order to accomplish its programs in the most efficient and effective manner. Some examples of such management accomplishments are:

Accounting System Enhancements

Over the past two years, the Safety Board has made numerous enhancements to its online, interactive, data base management accounting and reporting system. The system incorporates state-of-the-art technology, including online interactive data entry screen, comprehensive online edit/validation checks, full financial reporting, automated disbursments, and an easy-to-use query and report writer utility. The system has the capability and flexibility to maintain various types of funds, including administrative, grant, multiyear, and no year funds. Some of the many features are:

-- Automated general ledger and trial balance with detail and summary data;

-- Fully-automated financial reporting for external reports such as the SF-224, Statement of Transactions, the SF-133, Report on Budget Execution, the SF-225, Report on Obligations, and the SF-220, Statement of Financial Condition;

-- System-generated payroll accruals and reversals; and

-- Several other financial management modules for such areas as personnel and procurement which can fully interact with the accounting system;

This enhanced data base management system provided the Accounting staff with the necessary tools to accomplish a complete and accurate balancing and closeout of all accounts within days after the end of fiscal year 1985.

Administrative Law Judge Efficiencies

Completed an intensive review of case management procedures in the Office of Administrative Law Judges to identify administrative improvements and further efficiencies which could be implemented to cope with an estimated 15% increase in the number of appeals filed in FY 1986. As a result of the review, new procedures and organizational arrangements were implemented to free all of the judges of as many non-judicial duties as possible, and guidelines regarding processing times and criteria for setting hearings were made more specific. These management changes should result in a 15 percent productivity improvement.

International Relations

Inaugurated a program to improve communications and develop closer working relationships with major foreign government counterparts in accident investigation. Accidents involving U.S.-manufactured aircraft, if not promptly and effectively investigated and corrective action taken as necessary, can adversely impact international sales of such aircraft -- the nation's second largest export product. The Safety Board, as the accredited representative of the U.S. government in all such accident investigations, must maintain close coordination and liaison at all times with its foreign accident investigation colleagues to facilitate the free flow of safety related information and to assure smooth intergovermental teamwork when accidents do occur. Consequently, the Board, during the past year, initiated a series of meetings with major current and potential user nations, including European and Commonwealth countries as well as Japan and China, to discuss operating procedures and enhance friendly relations.

Safety Recommendation Review Board

Established a high level review committee which meets periodically to decide on the merits of safety proposals and to establish priorities for the conversion into safety recommendations of those found to have merit. This has reduced the number of pending proposals submitted by field staff as a result of their accident investigation activities, and will reduce the length of time required to review and act on such safety proposals in the future.

Summary Accident Report

Formalized a system of reporting on accidents through "Summary Accident Reports". Historically, most accident reports were issued in two formats: major accident reports containing all of the facts and circumstances surrounding an accident having significant public interest and multiple safety recommendations involving various safety issues; or computerized or one-page "briefs of accidents" containing standardized data elements for use in statistical analysis or accident tabulations. The new Summary Accident Reports enable the Board to highlight a safety issue occurring in an accident in support of one or more safety recommendations emanating from that accident without preparing a comprehensive narrative report on all aspects of the accident.

Response To Requests For Accident Files

Conducted a survey of all persons who requested accident file information from the NTSB, over approximately a two month period, to determine ways in which we could improve our service to the public. The NTSB receives approximately 10,000 requests each year for copies of accident file information and such requests are a major source of information for the public on the Board's work. The large majority of responses to this survey were highly favorable of the service provided by the Board in this area. As a result of suggestions made by the survey respondents, we improved the quality of the reproduction of the documents, and implemented a program to provide continuing information on the status of their request if the information is not immediately available. In addition, we are also placing a major effort on reducing the time required to complete the investigative report.

Accident Investigation School

Established an aviation accident investigation school at Oklahoma City in FY 1984 to provide training for the Board's air safety investigators, offering four 2-week courses in advanced aviation accident investigation techniques. To date, 48 percent of our aviation staff have been provided training to advance their skills in these areas.

In FY 1986, the accident investigation school in Oklahoma City, which previously included only aviation training, will be expanded to provide training for NTSB employees in railroad and highway basic and advanced accident investigation techniques. This school will not only allow the Board to provide uniform, cost-effective accident investigation training to NTSB employees, but also to provide accident investigation training to limited numbers of state, local and foreign government and industry officials who assist the Board in its aviation accident investigation efforts.

FUTURE PLANS

The Safety Board's long-term priorities are reflected in its Management Objectives, Accident Selection Criteria, Safety Studies, and Safety Objectives. Within funding and personnel limitations the following plans focus available resources on specific management initiatives, and selected accidents and issues that will assure the public's confidence in the safety of the transportation system and provide the highest potential safety payoff.

MANAGEMENT OBJECTIVES

- Continue emphasis on allocating Board investigative resources to assure the public's confidence in the transportation system and provide the highest potential safety payoff.
- Continue to issue investigative reports, safety studies, and recommendations of the highest quality.
- Improve the timeliness of Safety Board accident reports.
- Eliminate delays in answering general correspondence, public inquiries and safety recommendation followup correspondence.
- Reduce to and maintain a manageable level of open safety recommendations.
- Further enhance cooperation with and participation from parties to investigations.
- Continue to implement cost-effective management improvements to more effectively utilize our limited resources.
- Expand the applications for the Board's microcomputer network, including:
    1) developing and implementing an automated safety recommendation proposal system to save investigators time in developing new safety proposals by providing rapid access to information on past Board efforts on the same issue; and
    2) developing and implementing an automated indexing system for all major Board documents and correspondence to assure consistency of Board positions and increase the productivity and efficiency in which Board products are developed.
- Keep abreast of new and more technically complicated aircraft and other transportation technology.
- Establish an "In Search of Excellence" program at the Board which will involve all levels of the agency from the Chairman to the lowest graded employee. The goals of the program will be to improve the Safety Board by making it a more effective, efficient, productive, employee-involved and employee-oriented organization.

ACCIDENT SELECTION CRITERIA

The Safety Board investigates aviation, railroad, highway, marine, pipeline, and hazardous materials accidents. Under the Board's accident selection criteria, the Board's investigative response will depend primarily on the following factors: (1) the need for independent investigative oversight of certain specified areas to assure the public's confidence in the transportation system; and (2) the need to concentrate attention and resources on the most significant and life-threatening safety issues. Limited investigations are conducted of all other accidents which the Board is required by statute to investigate.

Aviation Accidents

1. Oversight/public confidence:
   - a. Commercial passenger service.
   - b. Air traffic control operations.
   - c. Midair collisions.
   - d. Newly-certificated aircraft.
   - e. In-flight fire.
   - f. In-flight breakup.
   - g. Turbojet aircraft.
   - h. Newly-formed airlines.
   - i. FAA surveillance of air carrier maintenance.

2. Selected emphasis areas:
   - a. Inadvertent flight into severe weather.
   - b. Instructional flying.
   - c. Light twin-engine power failure.
   - d. Small transport-category turbine-powered aircraft accidents/incidents.
   - e. General aviation crashworthiness.

Railroad Accidents

1. Oversight/public confidence:
   - a. All passenger train accidents which result in:
     - -- a passenger fatality or serious injury to more than six persons; or
     - -- fire with evacuation of passengers; or
     - -- property damage of $50,000 or more.
   - b. All accidents which involve an employee fatality or result in damage of $500,000 or more to railroad and non-railroad property.

2. Selected emphasis areas:

   a. Release of hazardous materials; crashworthiness of tank cars.
   b. Grade crossing accidents which involve railroad or highway vehicle fatalities, school or public transportation vehicles, or active grade crossing signals.
   c. Rail rapid transit accidents/fires.
   d. Alcohol/drug use by railroad operating employees.

Highway Accidents

1. Oversight/public confidence:

   a. Passenger buses.
   b. Collapse of a major bridge structure.
   c. Hazardous materials spills or potential spills.

2. Selected emphasis areas:

   a. Occupant protection:
      -- child safety seats.
      -- passenger car restraint systems.
      -- air bag-equipped vehicles.
      -- school buses and school vans.
   b. Commercial vehicle operation:
      -- trucks transporting hazardous materials - routing, driver selection, certification and training.
      -- longer, wider, heavier trucks.
   c. Railroad/highway grade crossings.

Marine Accidents

1. Oversight/public confidence:

   a. Loss of 6 or more lives.
   b. Loss of a self-propelled vessel over 100 gross tons, or damage to any vessel exceeding $500,000.
   c. Serious hazardous materials threat to life/property/environment.
   d. Coast Guard safety functions (e.g., Vessel Traffic Services (VTS), Search and Rescue, inspections, etc.).
   e. A public and non-public vessel collision with one or more fatalities or $75,000 or more in property damage.

2. Selected emphasis areas:

   a. Passenger vessels; including ocean cruise ships, ferries, and harbor or river excursion boats.
   b. Crew boats, mobile offshore drilling units, and research vehicles.
   c. Public vessels including training vessels.
   d. Recreational boating accidents which involve national safety problems.
   e. Release of a hazardous material or dangerous cargo on the inland waterways or harbors of the United States.
   f. Ramming or collapse of a major highway bridge which spans navigable waters.

Pipeline Accidents

1. Public confidence:

    a. One or more fatalities.
    b. Damage exceeding $500,000.

2. Selected emphasis areas:

    a. Excavation damage and damage prevention programs.
    b. Extensive spill and ignition of highly volatile liquids.
    c. Plastic pipe failures.

Hazardous Materials Accidents

1. Public confidence:

    a. Multiple fatalities or serious injuries.
    b. Major evacuation of the public.

2. Selected emphasis areas:

    a. Emergency response:
        - -- efforts by community and industry officials to identify and plan for the risks, resources, and responsibilities involved in dealing with a hazardous materials release in the community.
        - -- availability, quality, and utilization of training for emergency responders.
        - -- adequacy of chemical behavior references and emergency planning guidelines to provide accurate and consistent information to emergency responders.
    b. Adequacy of hazardous materials containers.

SAFETY STUDIES

Safety Studies are performed to stimulate improvements in the policies, programs, activities, methods, processes, or statutory authority of Federal or State agencies, or to advance technological improvements in a transportation system, subsystem, or component, through the dissemination of a safety study report and, where appropriate, safety recommendations.

In some cases, public hearings are held on emerging safety issues to provide an opportunity for informed public discussion. In all cases, comprehensive reports on the findings, containing recommendations for corrective action, are prepared for public release.

In selecting subjects for Safety Studies the Board identifies ongoing or potential safety problems or issues of national significance which have one or more of the following characteristics and which can be accommodated under current personnel and scheduling limitations:

1. Potential for reducing accident losses.
2. Potential for improving the safety effectiveness of other Government agencies.
3. Potential for attaining favorable action on past Board recommendations.
4. Adequacy of program resources committed by other Government agencies.
5. Timeliness with regard to transportation agency program planning and implementation.
6. Potential impact on regulatory or other safety programs.
7. Congressional and public interest.

Highlights of some of the current Safety Studies follow:

AVIATION

Air Carrier Flight Crew Training

Deficient flight crew performance has been raised as a factor in many air carrier accidents. It has often been shown that inadequate training contributed to the inadequate crew performance, or that improved training might have produced a level of performance sufficient to cope successfully with the difficulties that led to the accidents.

The proposed study would review the Safety Board's reports on air carrier accidents to determine the extent to which training problems were a factor. For each issue, the study would examine the actions taken in response to the Board's recommendations and, in general, chart whatever progress there has been in that issue since the Board's investigation was completed.

The study would examine closely those regulations that address pilot training and certification. The role of the FAA in issuing and enforcing the regulations would be discussed, as well as the agency's research activities in pilot training. The involvement of airline management and unions would be included, as well as aircraft and training aid manufacturers.

When it is shown that more action is required in response to previous Board recommendations on air carrier crew training, the study would stress the need for that action. In addition, new recommendations would be developed to improve training in specific areas. Once further training needs are identified in those specific areas, it may be possible to demonstrate points of similarity among these needs and then to develop additional, general recommendations concerning principles of crew training. This study is scheduled for completion in 1987.

HIGHWAY

Performance of Occupant Restraints in Survivable Motor Vehicle Accidents

With increased government and private emphasis on the importance of seatbelt use and a small increase in use rates during the past 3 years, safety experts again are taking a look at the effectiveness of seatbelts in preventing or reducing serious injuries in crashes. However, information on the real-world performance of seatbelts in accidents has not been systematically collected and analyzed in the U.S. Although State and Federal organizations examine reports of fatal and serious injury crashes, reporting of belt use in these accidents is not always consistent. Consequently, seatbelt effectiveness estimates based on these investigations are questionable. In this Safety Study, the Board is documenting crash dynamics, injury sources, and seatbelt performance, including the effects of car size and crash dynamics on belt performance.

The Safety Study is being based on in-depth investigations of more than 200 real-world crashes. Investigators are attempting to determine whether belts were worn, whether they were worn properly, and the sources of injuries sustained by all occupants of vehicles in which at least one person was belted. In addition, the belt system components are being examined for possible malfunctions.

When completed, this study should provide substantial information on belt performance in real-world accidents, including the conditions under which seat belt systems perform well and the areas in which belt systems need to be improved as well as the kinds of injuries sustained by belted and unbelted occupants. Comparison of accident victim injuries is possible in some cases in which there is a mixture of belted and unbelted occupants within the same vehicle. Recommendations to the National Highway Traffic Safety Administration, to motor vehicle and belt manufacturers, and to safety information groups are likely to result.

The study has been divided into two parts; the first part is concerned with the performance of lap belts while the second part is concerned with the performance of lap-shoulder belt systems. A report on the performance of lap belts should be completed in the spring of 1986 and a report on the performance of lap-shoulder belts should be completed by the end of 1986.

School Bus Safety

The Safety Board's actions to improve crash protection for passengers of school buses (including passenger vans used to transport pupils) began with its Special Study on "Inadequate Structural Assembly of School Bus Bodies" (July 1970). That study, based on Board accident investigations, led to requirements for significant improvements in the structural strength of new school buses in order to enhance their resistance to breakup in crashes and rollovers, improvements that characterize modern school buses compared to those commonly in use in the 1950s, 1960s, and early 1970s.

In 1976, the National Highway Traffic Safety Administration (NHTSA) issued requirements that new school bus seats be designed to "compartmentalize" children as a crash injury reduction measure and set standards for seatback padding to reduce facial and head injuries.

In 1978, the Board asked NHTSA to review school bus crash data to see if the safety standards had made any difference. A 1980 NHTSA study reviewed accidents involving pre-standard buses (at that time, few post-1977 buses were in the fleet) and estimated the probable effects the seating standard would have had on occupant injuries. The Board itself has investigated a number of accidents related to this issue over several years.

In the Summer of 1983, the Board reviewed its previous school bus accident investigations, analyzed research and other work performed by NHTSA and the school bus industry and information available from other countries. The Board's research indicated that the NHTSA evaluation study's conclusion that the 1977 standards appear to be effective in preventing most injuries was reasonable. The Board also concluded that a federal standard to require manufacturers of large school buses to provide lap belts at each seating location would not be warranted. However, because the NHTSA evaluation study and the Board's research were based on accidents involving primarily pre-1977 school buses, the Board decided to investigate accidents involving post-1977 school buses to verify these conclusions.

Since the report was completed, the Board has focused its school bus accident investigations on post-1977 school buses to provide further data on current school bus crash performance and occupant protection. About 30 accidents involving large, post-1977 school buses have been investigated so far. The Board is continuing to investigate these accidents. A report on the occupant protection performance of these buses in crashes is expected to be completed in May of 1986.

Heavy Truck Safety

The highway dangers posed by heavy trucks are becoming increasingly apparent. News accounts of serious accidents, Congressional inquiries and industry programs to improve the image of trucking are all indications of this problem. Data from the Bureau of Motor Carrier Safety show truck accidents on the increase.

Truck accidents, like most other types of transportation mishaps, usually involve driver error to at least some degree. Safety Board investigations have shown that one reason for such errors is that there are some people driving large trucks who lack the necessary skills. Trucks may share the road with automobiles and other smaller vehicles, but the qualifications needed for safe operation are very different. This study examines the system that is supposed to produce qualified truck drivers. That system depends on: 1) training; 2) state licensing; and 3) Federal regulations for interstate drivers. Recommendations for improvements will be offered in each of these areas. This study will be completed in the Spring of 1986.

A second phase of this project will involve the on-scene investigation of up to 150 heavy truck accidents over the next 12 to 18 months. These investigations will look at all factors in trucking operations, including human performance issues such as fatigue, the abuse of alcohol and other drugs, as well as accidents occurring in urban environments.

MARINE

Fishing Vessel Safety

A recent study for the U.S. Coast Guard revealed that, between 1970 and 1982, an average of 185 U.S. fishing vessels were lost each year, resulting in an annual loss of 43 lives. Fishing vessel accidents account for a high percentage of major marine accidents (estimated between 35 and 45 percent, depending on the year), and should be a prime subject for efforts to improve safety.

Fishing vessels are owned, for the most part, by many small, independent companies, with no national fishing industry organization and only a few regional associations. Many of these vessels are old; they are not well maintained and not well-equipped with emergency and lifesaving devices. Commercial fishing vessels are not required to meet design or construction standards, nor are they inspected by the Coast Guard either during or after construction. Fishing vessels must comply only with the minimal regulations regarding navigation lights, life saving devices, and fire extinguishers. The operators of commercial fishing vessels are generally not required to be licensed by the Coast Guard.

Certainly, recent accidents such as the sinking of the U.S. fishing vessels AMAZING GRACE, ATLANTIC MIST, and others confirm the need for a safety study in this area to pull together evidence of the need for safety improvements in this industry.

The Coast Guard has undertaken a fishing vessel safety initiative because of the high loss rate of fishing vessels and crewmembers. The CG intends to reduce the number of fishing vessel casualties by not less than ten percent by 1991 through voluntary vessel standards and safety guides for training fishing vessel crews. However, neither the training nor the vessel standards will be mandatory. Currently, several fishing vessel safety centers sponsored by NOAA's National Marine Fisheries Service have attempted to institute fishing vessel safety courses, but attendance by fishermen/women has not been overwhelming. Since there is little demand for such courses, there are no major centers in the private sector providing safety training.

This study will review, in detail, all previous investigations by the Board of fishing vessel accidents, the recommendations issued as a result of those investigations, and actions taken (or not taken, as the case may be) by recommendation recipients. Board staff believes that the Safety Study, based on these in-depth accident investigations and resultant Safety Recommendations, would not duplicate or significantly overlap with the Coast Guard's initiative. The study should be completed early in 1987.

INTERMODAL

Railroad/Highway Grade Crossing Safety

As recently as 1978, more than 1,000 people died each year at railroad/highway grade crossings, but by 1983, this number had decreased to 542. However, in 1984, a distinct reversal of this five year decline in both fatalities and injuries took place. According to preliminary accident statistics, there were 649 fatalities at grade crossings in 1984, up 19.7 percent over the 1983 figures. There also were several serious accidents involving Amtrak passenger trains.

Paralleling the great interest the Congress and the public have shown in the recent rash of grade crossing accidents involving passenger/commuter trains, and because passenger/commuter trains are involved in about 150 grade crossing accidents each year, the Safety Board took a concerned interest in determining what can be done to decrease the number of such occurrences.

Currently, two initiatives have been undertaken to enhance the Safety Board's promotion of railroad/highway grade crossing safety. The first, completed in September 1985, was a review of 18 significant grade crossing accidents investigated by the Board during 1983 and 1984. The accidents discussed in this review illustrated five improtant railroad/highway grade crossing safety issues: 1) routing of heavy trucks over improved crossings; 2) motor vehicle driver behavior; 3) booby-trap crossings (where visibility, sight distance, or other sight obstructions played a pivotal role in the collisions); 4) ineffectiveness of audible warnings; and 5) insufficient vehicle ground clearance on crossings with elevated surface profile.

In the second initiative, the Safety Board will continue to examine grade crossing safety issues based upon the investigation of more than 80 grade crossing accidents involving passenger/commuter train grade crossing collisions with motor vehicles. This initiative will develop further the five issues identified previously in the Board's review of 1983 and 1984 grade crossing accidents and will explore additional issues, including the impact of Operation Lifesaver programs in those states which have adopted it. The passenger/commuter train safety study is expected to be completed in 1986.

SAFETY OBJECTIVES

In an effort to increase its program effectiveness, the Safety Board inaugurated its Safety Objectives Program in fiscal year 1979. In selecting Safety Objectives the Board identifies safety problems or issues of national significance which have one or more of the following characteristics:

1. A practical solution is known.
2. Implementation of the solution is feasible and relatively short term.
3. The solution of the problem requires specific action by private, public, or governmental agencies.
4. One or more related Board safety recommendations on the subject remains open.
5. Measurable or visible results could be identified and documented if the Safety Objective were achieved.

The program represents another effort to ensure that the Board's recommendations are implemented. The current Safety Objectives and those proposed for fiscal years 1986 and 1987 follow:

AVIATION

Flight Recorders

The Board's objective is to persuade the Federal Aviation Administration (FAA) to require upgraded cockpit voice recorders (CVR) and flight data recorders (FDR) and to extend their required use to commuter and general aviation airplanes.

Aircraft accident data which are preserved by FDRs and CVRs are essential for determining the probable cause(s) of accidents. Some of these recorders, such as the now obsolete foil FDR (the "scratch recorder") and certain CVR recorders, have had poor performance histories, which have degraded their value as accident investigation aids. Additionally, a definite need exists for small, lightweight recorders in multiengine, turbine-powered commuter and general aviation aircraft, and in air transport helicopters. In 1982, the Safety Board issued recommendations regarding commuter and general aviation recorders to 29 manufacturers and 6 user organizations of multiengine, turbine-powered airplanes and rotorcraft and to the FAA. Since then, the Board has reiterated these recommendations at least four times as a result of its investigation of specific accidents.

In January 1985, the FAA responded to the Safety Board's recommendations for extending use of recorders by issuing a Notice of Proposed Rulemaking (NPRM) to require CVRs on all twin-engine, turbine-powered, fixed-wing aircraft operating under 14 CFR Part 135 and certificated to carry six or more passengers, requiring two pilots, and manufactured after a to-be-specified date. However, the FAA has not indicated that they intend to require FDRs on these aircraft. Furthermore, there are no proposed rules to require either CVRs or FDRs on similar aircraft operating under 14 CFR Part 91 and 125.

The Safety Board supports the proposed requirements but believes that the proposal does not go far enough in providing for the level of safety needed. The Board will continue to urge the FAA to adopt a final rule which will ultimately require the installation of both CVRs and FDRs, consistent with SAE's recently published Aerospace Standard 8039, on both fixed-wing and rotary-wing aircraft operating under 14 CFR Parts 91, 125 and 135.

The FAA's NPRM, issued in January 1985, also responded to Safety Board recommendations urging an upgrading of air carrier aircraft FDR systems. The proposal would initiate the first major revision in FDR requirements for 14 CFR Part 121 operations in about 15 years. The proposed rule would phase out the use of the obsolete metal foil-type recorders in older airplanes, replacing them with more modern digitial recorders, and would require that additional parameters digital recorders be installed in new airplanes.

In general, the Board is pleased with what has been proposed but believes that there are serious areas of concern in that the proposed parameter lists are not extensive enough, based on the Board's experience with FDRs in the last 15 years. Also, the NPRM does not address the need for flight recorders in helicopters.

On July 29, 1985, long-awaited amendments to ICAO's international standards for flight recorders received final ratification, and are set to become effective on November 21, 1985. The Safety Board considers this a major accomplishment in its ongoing safety objective on this issue. Over the next few years these standards, as amended, undoubtedly will be instrumental in bringing about significant improvements internationally, in the quality of flight recorders on civil aircraft. These international standards specify recorder capability far beyond both current and proposed FAA requirements.

The ICAO amendments closely parallel many of the Safety Board's recommendations issued to FAA on flight recorders; and they are the culmination of more than five years of the Board's efforts within the international aviation community to promote improved flight recorder standards worldwide. The Safety Board will continue to urge the FAA to adopt U.S. regulations comparable to the ICAO standards.

Thus far, the Safety Board has accomplished four goals: (1) it has raised the consciousness of the aviation community, the U.S. Congress, the Department of Defense, and the general public regarding the value and use of FDRs and CVRs; (2) it has participated in the drafting of a standard for general aviation flight recorders which has been published and is now being evaluated by the FAA; (3) it has persuaded the FAA to initiate a rulemaking to upgrade recorders in certain aircraft operating under Part 121, and to require CVRs on certain aircraft operating under Part 135; and (4) it has obtained the adoption and ratification of upgraded flight recorder standards by the ICAO.

Detection and Avoidance of the Aviation Windshear Hazard

The Board's objective is to ensure that the Federal Aviation Administration (FAA) places priority emphasis on those activities which will lead to the installation of improved low-level windshear detection equipment in terminal areas and the implementation of practical procedures to communicate windshear information in a manner which will permit flightcrews to make prudent go-no-go decisions when planning departures and approaches. Also, the Board seeks to induce the FAA and industry to develop airborne windshear detection technologies and air carrier flightcrew training programs related specifically to the detection and avoidance of windshear as well as operational procedures for the successful penetration of low-level windshear encountered inadvertently.

The need for priority action to address the windshear hazard was tragically reemphasized on August 2, 1985, when Delta Airlines Flight 191, a Lockheed L-1011 airplane crashed on the Dallas-Fort Worth International Airport while on an instrument landing system approach. The airplane passed through a thunderstorm as it was descending on the final approach. An analysis of the parameters recorded on the airplanes flight recorder indicate that the airplane encountered severe winds typical of a microburst just before the crash. One hundred and thirty-six persons who were aboard the airplane and one who was in a car struck by the airplane died as a result of injuries received in the accident.

Not counting the Delta Airlines Flight 191 accident, which is still under investigation, the Safety Board has identified low-level windshear as a cause or contributing factor in 17 accidents involving transport category airplanes since 1970. Nine of these accidents were nonfatal, but the others accounted for 440 fatalities. Five of the fatal accidents and at least eight of the nonfatal accident occurred after the airplanes encountered the convective downburst or microburst winds associated with thunderstorms or heavy rainshowers.

In the mid- to late 1970s, acknowledging the serious hazard of windshear, the FAA and other government and industry organizations began extensive research and development programs which were in general consonance with actions recommended by the Safety Board. Several positive actions resulted: pilot training programs were enhanced to increase flightcrew awareness of the hazard; operational techniques were evaluated in simulation; various technologies for both ground-based and airborne windshear detection and monitoring equipment were evaluated. Unfortunately, all the tangible benefits of the research and development which have been underway for the past 10 years have not yet been realized. The only operational windshear detection system implemented thus far is the Low Level Windshear Alert System (LLWAS), an anemometer array around the airport which will alert the tower controller to shifting ground-level winds at the airport.

The limitations of the LLWAS as a decisionmaking aid to flightcrews has been illustrated in several recent accidents. This has prompted the Safety Board to reiterate its recommendations to the FAA to improve the current technology for LLWAS systems so they could be used more effectively for flightcrew operational decisions. Other recommendations have addressed the use of the wealth of information which was gained from the Joint Airport Weather Study (JAWS) program at the Denver Airport. That information the Board said, could be used to improve the LLWAS system and its procedural use, to evaluate the potential of other technologies such as the doppler radar for detecting windshear, to evaluate ways to communicate usable information to controllers and pilots for timely and accurate decision-making, and to provide better information for pilot training.

The Board will continue to investigate accidents as well as incidents involving air carrier, commuter or corporate aircraft which may be attributable to an encounter with low-level windshear, providing the data obtainable from these investigations to the research and development community. The Board will participate actively in government/industry activities by attendance at and presentations before working committees evaluating new procedures and technologies.

The Board also will continue to support the program for the next generation weather radar (NEXRAD) which will incorporate doppler features for measuring wind. The NEXRAD will improve en route weather detection and avoidance; however, apart from the technological fallout which may be transferrable, it will not be of significant assistance in addressing the terminal area windshear problem. Therefore, we will follow the terminal area doppler radar tests presently being conducted at Memphis for insights on the potential for accelerated development of this equipment.

The role of detection and forecasting of aviation windshear, in particular, and severe weather, in general, in aviation accidents will continue to be emphasized in the Safety Board's accident investigations, in safety recommendation followup activities, and in presentations before appropriate Congressional committees to assure that the related programs are not impeded by complacency and that they are given appropriate priorities.

RAILROAD

Alcohol and Drug Use by Railroad Employees

The Board's objective has been to achieve adoption of Federal regulations prohibiting consumption of alcohol and use of drugs by railroad operating employees prior to and during duty hours and providing for toxicological testing after most accidents.

A 1979 study by the Federal Railroad Administration (FRA) examined the drinking practices of 234,000 rail workers on seven railroads during 1978. The FRA found that 12 percent of the workers drank alcohol on duty an average of 3 days; 5 percent were "very drunk" at least once upon reporting for duty or on duty; 15 percent were "a little drunk" at least once upon reporting for duty or on duty; 23 percent of the operating workers were considered "problem drinkers"; and 7,000 of the workers said they had seen an alcohol-related train accident. Recent rail crashes again have underscored the urgent need for corrective action. Several such accidents are described in the Accomplishments section of this document.

As a result of its investigation of accidents involving alcohol and/or drug-impaired railroad crews, the Board has issued several safety recommendations.

In response to these recommendations, the FRA issued a Notice of Proposed Rulemaking on the "Control of Alcohol and Drug Abuse in Railroad Operations." The Safety Board supported the Proposed Rulemaking as consistent with its recommendations, but urged certain improvements. It said that the FRA should: (1) state explicitly that the regulation is a minimum for railroad efforts to curb alcohol and drug abuse; (2) ensure the implementation of a standardized drug testing system; (3) provide for testing of all employees directly involved in an accident, whether or not they are covered by the Hours-of-Service Act; and (4) avoid giving any impression that an employee with a blood-alcohol content of up to 0.04 percent is not impaired. The final rule was issued by the FRA on July 31, 1985. The effective date of the rule awaits the disposition of an appeal by labor before the 9th Circuit Court.

Even though the Safety Board is pleased with the final rule as a whole, it notes the critical test of the success of the rule will be the degree of application by the rail industry and enforcement by the FRA.

HIGHWAY

Infant and Child Passenger Protection (Motor Vehicles)

The Board's objective is to identify and stimulate action in both the public and private sectors to reduce the number of motor vehicle fatalities and injuries to infants and small children. The Accomplishments section of this document outlines the magnitude of this problem and describes the Safety Board's accomplishments in this area.

Although legislation requiring the use of child safety seats has been enacted in every State, the actual use rate across the nation remains below 50 percent. Compounding this problem, a recent observational survey suggests that, of those safety seats that are used, about 65 percent are misused.

Increasing use and decreasing misuse of child restraints remains a Board priority. In January 1985, the Safety Board held a symposium of child passenger safety experts to examine ways to increase the use rates of child restraints and to decrease the misuse of these restraints. A symposium summary was issued in September 1985. The Safety Board also issued safety recommendations to the 50 states and to the National Highway Traffic Safety Administration to improve the collection of data on the use and misuse of child safety seats. The Board will continue to work with public and private organizations and State legislatures to promote adoption of the Board's recommendations to improve child passenger safety and it will continue to examine provisions of child passenger safety laws, safety seat use and crash performance, and issue further safety recommendations where appropriate.

The Safety Board has established as its goal, that by 1995, at least 80 percent of all child passengers under the age of five will be transported in approved, and properly used child restraints. However, much work remains to be accomplished before the Safety Board's efforts are concluded.

HAZARDOUS MATERIALS

Crashworthiness of Railroad Hazardous Materials Tank Cars

Since 1979 the Safety Board has focused its efforts on improving the crashworthiness of railroad tank cars. To date, these efforts have resulted in the installation of shelf couplers, head shields, and thermal protection on tank cars transporting certain hazardous materials. The continuing objective of the Safety Board is the retrofitting with this protection on certain Department of Transportation (DOT) 105 and 111 tank cars that transport products that pose unreasonable risks when released. This can be accomplished by expanding the use of head shields and thermal protection, by increasing safety valve size, and by damage protection for top and bottom outlets for tank cars transporting those selected commodities that pose an unreasonable risk to the public. The DOT's rulemaking proposal on this issue was concluded on January 27, 1984, but increased protection was mandated only for tanks with capacities greater than 18,500 gallons that are used to transport flammable gases, anhydrous ammonia, and ethylene oxide. This limited action by the DOT did not address fully the Secretary of Transportation's April 13, 1983, expression of concern about the adequacy of current tank car safeguards. However, the rulemaking action did indicate that there would be a continuing evaluation of the need for improvements for those tank cars transporting hazardous materials. Since issuance of this rule, no identifiable project has been initiated by the DOT for accomplishing the promised continuing evaluation.

When tank cars equipped with thermal and tank head protection have been involved in derailments and other accidents, the benefits of these protective devices have been vividly demonstrated. The Association of American Railroads acknowledged at the Board's July 1983 hearing that head shields and thermal protection installed on DOT Specification 112 and 114 tank cars that transport flammable gases had all but eliminated the catastrophic threats to public safety posed when these cars were involved in derailments.

Many materials that pose substantial risk to public safety and health are not required to be transported in tank cars which are equipped with thermal or tank head protection. Recent accidents investigated by the Board continue to emphasize the need for action to be taken by the DOT to require improved protection of tank cars used to transport materials capable of endangering the public when released during an accident.

While accidents involving protected tank cars continue to demonstrate the effectiveness of thermal and tank head protection devices where installed, the DOT has yet to institute a comprehensive program for determining which of the various hazardous materials should be required to be transported only in protected tank cars and currently has no program for performing the necessary evaluations. The Safety Board's accident investigation program will continue to concentrate on the evaluation of the effectiveness of these protective devices and the identification of those materials carried in tank cars which are capable of endangering the public when released as a result of transportation accidents. Additionally, through meeting with officials of the Association of American Railroads and of the Chemical Manufacturers Association, the Safety Board will continue to seek the active support of these agencies for encouraging the DOT to pursue a comprehensive review of those hazardous materials in transportation which, because of the hazards posed to public safety and health, merit thermal and/or tank head protection.

On January 27, 1984, as a result of Safety Board efforts, the Federal Railroad Administration (FRA) and the Materials Transportation Bureau (MTB) issued a Rulemaking to require by December 31, 1986, the retrofit with head shields and/or thermal protection of approximately 3,000 DOT 105 tank cars which transport flammable gases, anhydrous ammonia, or ethylene oxide. The Safety Board concurs in the proposed retrofit but has urged the FRA/MTB to extend their review to other tank cars that transport high-hazard commodities such as fuming acids, other high-hazard flammable liquids, and toxic materials.

POLICY AND DIRECTION

Policy and direction at the Safety Board are provided by the Offices of the Chairman, Vice Chairman, and Members of the Board assisted by the Office of the Managing Director, the Office of Government and Public Affairs, and the Office of the General Counsel. The Members of the Board establish Board-wide policy and program guidance, determine the probable cause of transportation accidents, issue safety recommendations, approve accident reports and safety studies, and review appeals involving airman and seaman certificates and licenses. The Managing Director coordinates and directs the operation of the Safety Board's programs and staff. The other two offices provide liaison with the Congress, other Government agencies, and the public, and provide legal advice and services.

Purpose, Process and Objectives

There are four primary purposes of these organizations:

1. Policy Development - To carry out the duties and responsibilities of the National Transportation Safety Board as prescribed in the Independent Safety Board Act of 1974.

   To accomplish this, the Board Members must establish policy on transportation safety issues and problems and on Safety Board goals, objectives, and operations; review and approve all NTSB reports and safety recommendations; preside over all public hearings; testify before Congressional committees; and act as spokespersons to the transportation industry, other Government agencies, and the public.

2. Management - To ensure the effective implementation of the Safety Board's programs.

   To accomplish this, the Office of the Managing Director must coordinate and direct the day-to-day operations of the staff in executing the Safety Board's programs; schedule and manage the Board's review of major reports; provide executive secretariat services to the Board, including editing, word processing services, and the coordination of all documents presented to the Board; prepare Board meeting agendas, issue status reports, and record all official Board actions.

   Specific objectives include assuring effective, efficient, and economical implementation of the policies and programs of the Board; improving the timeliness with which all of the Safety Board's accident investigations are completed and safety recommendations are issued; assuring that the Board's limited dollar and personnel resources are allocated to the highest priority programs in terms of safety benefits; developing plans for dealing with future safety problems and issues to be studied by the Board; improving the effectiveness of the safety recommendations program, i.e., the quality of Board safety recommendations, and the timeliness and certainty of their implementation; and improving the usefulness of the accident data collected by the Board.

3. Government Liaison and Public Information - To keep Congress, other Government agencies, and the public informed on the work of the Safety Board and its efforts to improve transportation safety.

   To accomplish this, the Office of Government and Public Affairs must answer oral and written inquiries from the Congress, the public, the news media, and the transportation industry; prepare testimony for Board participation in Congressional hearings; represent the Board at major accident sites; implement transportation safety improvements through State and local actions; increase public awareness of the Board's activities in transportation safety; and improve the dissemination of safety information.

4. Legal Services - To provide internal advice and assistance on legal aspects of policy matters, legislation, Safety Board rules, and other matters of legal significance; to assure timely and objective review of airman and seaman certificate and license appeals; and to represent the Safety Board in court proceedings.

   To accomplish this, the Office of the General Counsel must undertake legal research, render legal opinions, and prepare appropriate correspondence; review Board documents for legal sufficiency; represent the Board in judicial or administrative proceedings; prepare proposed legislation; process requests and represent the Board in deposition proceedings; prepare and update Safety Board rules; and prepare opinions and orders on all certificate and license appeals.

ACCIDENT INVESTIGATION

The Bureaus of Accident Investigation and Field Operations manage accident/incident investigations, develop proposed probable cause(s) of accidents, develop safety recommendations, initiate accident prevention actions, and prepare reports on aviation, railroad, highway, marine, pipeline, and hazardous materials accidents.

Purpose, Process and Objectives

The purpose of these two bureaus is to investigate effectively aviation and surface transportation accidents and to formulate recommendations to minimize their recurrence.

The process is to: (1) determine the facts, conditions, and circumstances of each accident (refer to the accident selection criteria for a description of the types of accidents that are investigated); (2) analyze the facts; (3) develop proposed probable cause(s); (4) develop effective preventive safety recommendations; (5) collect investigative data in support of Board studies and safety objectives; (6) manage all resources, including both government and industry parties to the investigation, as well as all phases of the investigation; (7) conduct public hearings and deposition proceedings when necessary; (8) manage the preparation of accident reports; (9) participate and assist in foreign accident investigations which involve U.S.-manufactured aviation equipment or U.S. carriers or passengers; and (10) convey Board positions on aviation safety issues to the International Civil Aviation Organization.

Specific objectives include prompt, objective investigation of all accidents at a level commensurate with the accident prevention potential; identification of all safety issues and prompt development of all pertinent safety recommendations as soon as the need for them becomes apparent through investigations or other observations; provision of comprehensive investigative support commensurate with available resources to facilitate the accomplishment of all Board-wide safety objectives and safety studies; representation of the U.S. in the investigation of foreign accidents which involve U.S. aviation products or operations in consonance with State Department policies and international treaties; and provision of accident data to develop and analyze aviation crashworthiness, crash injury, and human performance.

TECHNOLOGY

The Bureau of Technology provides specialized advice and services for the Board's accident investigation, accident prevention, and safety promotion activities in the areas of human, vehicular, environmental, and operational factors. This Bureau also develops safety recommendations, provides laboratory support, and conducts special investigations and safety studies.

Purpose, Process and Objectives

The purpose of this organization is to provide the technical support necessary to identify and develop measures for minimizing the recurrence of transportation accidents.

The process involves conducting accurate, objective, and thorough technical investigations of accidents; identifying and reporting the technical factors in these accidents; participating in public hearings; detecting safety problems or areas of unreasonable risk; and recommending practical, cost-effective corrective actions.

The major program areas include:

1. Human Performance. This program examines the factors which may have influenced the performance of persons whose actions have caused or contributed to the occurrence of an accident or incident such as (a) the background of the person as it may have affected performance, including activity during a pre-accident period, rest, habits, and critical life or stress-producing events; (b) the physical ability of the person to perform, including general health, physiological and sensory factors, drug/alcohol ingestion; (c) the adequacy of the procedures, knowledge and training of the person for the task, the person's experience level, work habit patterns and the interrelationships with other persons including management; (d) the specific task requirements as they impinge upon human capability such as time for critical decisions, workload, and physical strength requirements; (e) the equipment design including the operator-equipment interaction dynamics (ergonomics), comfort, display information transfer, controls, and general workspace layout; and (f) the environment as it may affect the person's ability to sense and perform, including illumination, noise, vibration, motion, and external atmospheric/geographic conditions and characteristics.

2. Survival Factors. This program addresses specific factors affecting the survivability of the accident by (a) determining and interpreting the extent and cause of injuries of crew and passengers as a result of the accident; (b) examining safety procedures used by the operator/crewmembers and passengers to prevent the accident and procedures to ensure post-accident survival; (c) examining the effectiveness of vehicle and equipment design to protect occupants during a crash; and (d) examining a community's emergency responsiveness.

3. Aviation Engineering. This program examines the airworthiness of aircraft as a causal or contributing factor to accidents or incidents. During the investigation of accidents, consideration is given to the design, certification, service history and maintenance of the aircraft's structure, powerplants, flight controls, electrical, hydraulics, and avionics systems for both transport category and general aviation aircraft, both fixed and rotary wing. This program also provides an extensive review of accident investigation findings and the formulation of safety recommendations when appropriately supported.

4. Operational Factors. This program examines operational, air traffic control and weather factors such as: (a) flight operations, including all facts relating to history of flight, aircraft weight and balance, dispatch procedures, company flight procedures, and recent flightcrew background; (b) flight training and experience, including training records for each crewmember with emphasis on pilot proficiency and line checks by company and FAA personnel and crewmember's recency and applicability of experience for the operation being flown at the time of the accident; (c) air traffic control (ATC), including all facts relating to ATC including history of flight, quality of services rendered, controller techniques, controller experience and training, Navaid and ground equipment checks, and review of related facility documents; and (d) meteorological/environmental conditions, affecting accidents in all modes of transportation, including detailed studies of both the weather conditions which may have contributed to an accident and the environmental information available to operating personnel prior to and at the time of an accident.

5. Surface Engineering. This program examines vehicular, operational, and environmental factors in the highway, railroad, and marine transportation modes. The various program areas include: (a) motor vehicle mechanical and structural systems; (b) highway civil engineering and roadway geometrics; (c) railroad vehicle mechanical, electrical and structural systems; (d) railroad track and structures engineering, communications, and signaling; and (e) marine vessel design and structural integrity.

6. Engineering Services. This program provides the technical engineering support required in the preparation of the Board's reports and safety studies for most modes of transportation. This multi-modal support is provided in the following areas: (a) reports and analyses in the field of electrical engineering, radio, video, and recorded electronic communications in aircraft, ships, trains, and autos and their supporting systems; (b) extracting and formatting data from digital and mechanical flight recorders; and (c) three dimensional vehicular performance studies and complex analytical studies in vehicle dynamics and operation.

7. Materials Laboratory. This program provides the materials engineering support required for field and major investigations, public hearings, safety recommendations, and the preparation of Board reports in all modes of transportation. Component examinations and analysis include, but is not limited to, general aviation and air carrier aircraft, gliders, hot air balloons, ultralight aircraft, pipelines, railroad vehicles and support equipment, highway vehicles, bridges and guardrails, hazardous materials containers and transporters, offshore oil drilling platforms and equipment,

and marine vehicles and accessories. This complete multimodal support provides technical and engineering expertise in areas such as: (a) fracture, deformation and failure analysis; (b) chemical composition and strength of materials; (c) stress, strain, and local distribution analysis; (d) design, fabrication, and testing of components; (e) inservice and recurrent nondestructive testing; (f) fatigue, overstress, corrosion, corrosion fatigue, stress corrosion, embrittlement, and elevated and low temperature failures; (g) friction, rolling contact and wear failures; (h) impact and crash reconstruction; (i) instrument and system component inspection, teardown, and analysis; and (j) fire and explosion effects. This program also provides the means for dimensional checking and identification/verification of components, analysis of particulates, macro and micro photographic documentation, and comprehensive examination of fabrics, composites, rubber, glass, and other non-metal components and debris.

SAFETY PROGRAMS

The Bureau of Safety Programs conducts oversight studies of the safety activities of other transportation agencies and the transportation system. It identifies specific transportation safety issues not being addressed adequately by government or industry, conducts safety studies on specific safety issues, and conducts evaluations of other agencies' safety programs. The Bureau also manages the development and follow-up of the Board's safety recommendations and the Board's comments on Notices of Proposed Rulemaking, maintains the Board's transportation accident and incident data system, provides accident data to foreign governments, other U.S. government agencies and private industry, and provides statistical analyses of these data.

Purpose, Process and Objectives

The purpose of this organization is to identify and propose solutions to transportation safety problems.

The process involves four main activities:

1. Safety Studies. The Bureau evaluates the safety effectiveness of Federal, State, or local transportation safety programs by exploring policy issues, program coverage, and management effectiveness. Studies are also conducted of major transportation issues by analyzing accident data derived from past accidents or special investigations, by analyzing accident statistics, and by studying transportation systems or subsystems to identify and define safety problems. The Bureau manages public hearings on emerging safety issues which provide an opportunity for informed public discussion. In all cases, comprehensive reports on the findings, containing recommendations for corrective action, are prepared for public release.

2. Safety Recommendations. Recommendations resulting from safety studies, accident investigations, public hearings, and other Board activities are the end product of the Board and are vital to the Board's basic role of accident prevention. This program ensures that the Board issues appropriate and effective recommendations for enhancing safety in all transportation modes and is designed to increase the degree of acceptance by recipients of Board recommendations and to expedite corrective action. The Bureau's management of the safety recommendation program extends to ensuring that recommendations are appropriate, clearly written, concise, and well-supported by demonstrated need.

3. Accident Data. Accessible, good quality data are essential to pinpointing areas of safety need, developing insight into the best potential solutions, monitoring the effectiveness of tried countermeasures, and reviewing progress in safety efforts. This program involves the retrieval, analysis, and dissemination of aviation accident data. The Bureau disseminates accident data in regularly published standard reports and in ad hoc reports on special safety issues to other Board program managers, Members of Congress, the public, industry, the FAA, and others.

4. Rulemaking Comments. Federal rulemaking actions can be among the most effective influences on transportation safety. However, rulemaking is most useful when it is directed toward well-defined problems and when it provides for careful evaluation of the real-world effectiveness of the regulatory action. This program ensures that the Board influences constructively the development of effective regulations and the reduction of duplicative, outmoded, or otherwise ineffective rules. The Bureau is responsible for monitoring all DOT rulemaking actions and managing the preparation of timely, informed comments on those rulemakings which relate to major policy issues of concern to the Board.

ADMINISTRATION

The Bureau of Administration is responsible for providing timely, responsive administrative support and services to the Board and the public in financial management, personnel management, operations and facilities management, and automated information management.

Purpose, Process, and Objectives

1. Financial Management. The purpose of this activity is to obtain sufficient resources from the Congress and OMB to operate the Safety Board's programs, to ensure Board funds are properly spent and properly controlled, and to maximize the efficient and effective use of Board funds.

   To accomplish this the financial management staff must develop, prepare and coordinate annual budget requests and triennial authorization requests to OMB and Congress; evaluate program operations; conduct financial reviews to maintain positive control over appropriated funds and insure funds are expended in accordance with approved programs; control personnel resources; develop and maintain an accounting system that provides accountability of expended resources and furnishes timely external and internal management financial reports; audit and certify bills and vouchers for payment; conduct financial and program audits of NTSB functions to assure that NTSB activities are conducted in accordance with laws and regulations; and coordinate the safety objective program.

   Specific objectives include the payment of all bills when due and vouchers within 14 days of receipt, the development of an automated staffing system integrated with the automated personnel system, and the development of enhancements to the automated accounting system to improve accuracy, efficiency and economy.

2. Personnel and Training Management. The purpose of this activity is to effectively manage the personnel and training program in order to improve productivity and morale, to maintain compliance with Federal laws and regulations, and to maintain a highly skilled and efficient workforce.

   To accomplish this the personnel and training staff must recruit and process applications for all vacant positions; process personnel actions for all hires, promotions, and salary adjustments; provide employees with employee services and benefit information, including counseling in such areas as life and health insurance coverage and retirement benefits; review and classify positions to maintain an accurate grade and position structure; develop and implement functional personnel and training programs, such as performance appraisal systems and incentive award programs; and manage the training program.

Specific objectives include accomplishing the recruitment for all vacant positions within 45 days, processing all personnel actions within the payperiod in which they are effective, and updating all personnel directives to comply with the new personnel requirements.

3. Operations and Facilities Management. The purpose of this activity is to manage and provide timely and responsive support and services to NTSB staff and the public in contracting and procurement, facilities, printing and graphics, mail and messenger service, and provision of information and publications to the public.

   To accomplish this the operations and facilities staff must provide and maintain the staff working environment and NTSB accountable property; procure and contract for needed goods and services; coordinate the provision of printing, graphics, and photographic services; coordinate and/or provide internal and external mail and messenger service; maintain the files on major NTSB reports and provide or coordinate the provision of file information and NTSB publications to the public.

   Specific objectives include providing timely and responsive service to the Board and the public, developing and implementing an automated procurement system to increase productivity, and developing and implementing a correspondence tracking system for public requests for information to assure prompt service to the public.

4. Information Management. The purpose of this activity is to manage the NTSB's automated mainframe and microcomputer information functions and provide information processing support for the Board's automated systems including the following mainframe applications: aviation accident data, railroad accident data, safety recommendations, accounting and budgeting, staffing control, correspondence tracking, inventory control, mailing lists, and others.

   To accomplish this the information management staff must manage all automated mainframe and microcomputer information systems, including maintenance of the mainframe data bases; operate the in-house mainframe computer, provide user support and training; and provide enhancements for current programs and develop new programs to meet Board needs.

   Specific objectives include the modification of the railroad accident data base to more effectively meet Board needs, and the enhancement of the microcomputer system for the Board to increase productivity and efficiency.

ADMINISTRATIVE LAW JUDGES

The Office of Administrative Law Judges provides the initial forum for the review of appeals from the suspension, amendment, modification, revocation, or denial of any operating certificate or license issued by the Secretary of Transportation under the Federal Aviation Act of 1958.

Purpose, Process and Objectives

The primary purpose of this function is to assure fair and impartial review when appeals are taken from safety enforcement certificate actions by the Administrator of the Federal Aviation Administration against airmen or certificate holders or from denials of pilot applications for airman medical certificates.

The process involves the following activities:

Many, but not all appeals involve a formal hearing. A Judge may issue an order terminating the proceeding because the parties have reached an agreement, the point at issue is moot, or because the airman abandons his/her appeal. When required, formal hearings are held throughout the United States and its possessions. The Judges function as trial Judges -- administering oaths, receiving evidence, ruling on motions, issuing subpoenas, regulating the course of the hearings, considering the record made, making initial decisions, and performing such other duties as provided for by Part 821 (49 CFR 821) of the Board's rules of Practice in Air Safety Proceedings. At the conclusion of a hearing, the Judges have the option either to issue an oral decision from the bench or to issue a written decision later. Under the Equal Access to Justice Act, the Judges also review and decide applications for attorney fees and expenses from airmen who prevail against the Federal Aviation Administration in the adversary adjudications brought pursuant to Section 609 of the Federal Aviation Act of 1958.

The primary objective of the Board in the adjudicative proceedings is to assure safety in air transportation through adherence to the Federal Aviation Regulations, while at the same time providing every airman due process in any appeal or petition that is filed with the Board.

SUMMARY OF
RESOURCE REQUIREMENTS AND
WORKLOAD MEASURES
FY 1985-1987

	FY 1985	FY 1986	G-R-H FY 1986	FY 1987
Resource Requirements				
Budget Authority ($000)				
Policy and Direction	2,414	2,774	2,655	2,666
Accident Investigation	10,657	10,735	10,273	10,316
Technology	4,882	4,968	4,754	4,774
Safety Programs	1,560	1,571	1,504	1,510
Administration	1,480	1,491	1,427	1,432
Administrative Law Judges	906	761	728	732
Total Budget Authority	21,899	22,300	21,341	21,430
Outlays ($000)	21,579	22,259	21,358	21,461
Full-time Equivalent (FTE) Employment (workyears)				
Policy and Direction	37	41	39	37
Accident Investigation	165	165	158	149
Technology	66	67	64	61
Safety Programs	26	26	25	24
Administration	33	33	32	30
Administrative Law Judges	9	6	6	5
Total Funded FTE Employment	336	338	324	306
Current OMB Ceiling	340	334	334	324
Workload Measures:				
Safety Recommendations Issued	393	410	394	360
Major Accident Investigation Reports	45	47	45	41
Aviation	10	11	11	10
Railroad	11	12	11	10
Highway	6	6	6	5
Marine	12	12	11	11
Hazardous Materials/Pipeline	6	6	6	5
Field and Other Accident Investigation Reports	3,605	3,750	3,600	3,300
Aviation	3,125	3,250	3,120	2,860
Railroad	176	183	176	161
Highway	235	245	235	216
Marine	45	47	45	41
Hazardous Materials/Pipeline	24	25	24	22
Foreign Investigation	45	47	45	41
Public Hearings	10	10	10	9
Safety Studies	9	9	9	8
Rulemaking Reviews	45	47	45	41
Certificate and License Appeals (Closed)	647	760	730	670

ALLOCATION OF RESOURCES BY PROGRAM, MODE, FUNCTION, AND LOCATION
FY 1987

Distribution by Program	Approximate Full-Time Permanent Staff Years	Approximate Cost ($000)
Policy and Direction	37	2,666
Accident Investigation	149	10,316
Technology	61	4,774
Safety Programs	24	1,510
Administration	30	1,432
Office of Administrative Law Judges	5	732
TOTAL	306	21,430
Distribution by Transportation Mode		
Intermodal	147	10,295
Aviation	100	7,003
Railroad	19	1,331
Highway	23	1,611
Marine	12	840
Pipeline	1	70
Hazardous Materials	4	280
TOTAL	306	21,430
Distribution by Function		
Major Accident Investigations	130	9,104
Field Accident Investigations	106	7,424
Safety Reviews and Studies	24	1,681
Appeals	11	770
Administrative Support	35	2,451
TOTAL	306	21,430
Distribution by Location		
Headquarters	216	15,127
Field	90	6,303
Total	306	21,430

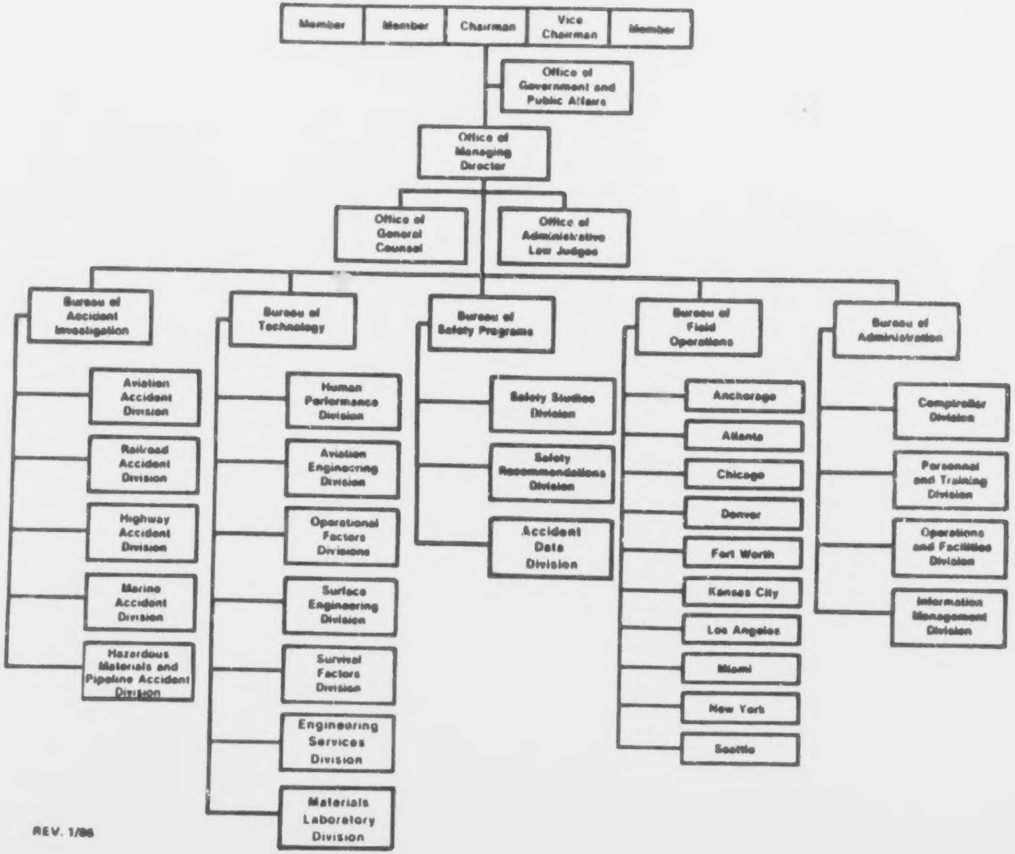
Appropriation Language

NATIONAL TRANSPORTATION SAFETY BOARD

Salaries and Expenses

For necessary expenses of the National Transportation Safety Board, including hire of passenger motor vehicles and aircraft; services as authorized by 5 U.S.C. 3109, but at rates for individuals not to exceed the per diem rate equivalent to the rate for a GS-18; uniforms or allowances therefor, as authorized by law (5 U.S.C. 5901-5902), [$22,300,000] ($21,430,000) of which not to exceed [$500] ($500) may be used for official reception and representation expenses. (Department of Transportation and Related Agencies Appropriation Act, 1986.)

National Transportation Safety Board


Member
Member
Chairman
Vice Chairman
Member
Office of Government and Public Affairs
Office of Managing Director
Office of General Counsel
Office of Administrative Law Judges
Bureau of Accident Investigation
Aviation Accident Division
Railroad Accident Division
Highway Accident Division
Marine Accident Division
Hazardous Materials and Pipeline Accident Division
Bureau of Technology
Human Performance Division
Aviation Engineering Division
Operational Factors Divisions
Surface Engineering Division
Survival Factors Division
Engineering Services Division
Materials Laboratory Division
Bureau of Safety Programs
Safety Studies Division
Safety Recommendations Division
Accident Data Division
Bureau of Field Operations
Anchorage
Atlanta
Chicago
Denver
Fort Worth
Kansas City
Los Angeles
Miami
New York
Seattle
Bureau of Administration
Comptroller Division
Personnel and Training Division
Operations and Facilities Division
Information Management Division
REV. 1/86

Panama Canal Commission

1987

JUSTIFICATION OF PROGRAMS AND ESTIMATES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1987

59-251 O - 86 - 24

PANAMA CANAL COMMISSION
Justification of Programs and Estimates for the Fiscal
Year Ending September 30, 1987

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PANAMA CANAL COMMISSION
Summary Statement
Introduction

1. The Budget programs for FY 1987 represent the operating and capital requirements of the Panama Canal Commission for the operation and maintenance of the Panama Canal in accord with the Panama Canal Treaty of 1977 and its implementing legislation, the Panama Canal Act of 1979.

2. The Panama Canal Commission is an agency of the United States Government operating by authority of the Congress of the United States with funds appropriated for those purposes authorized. The Commission has a nine-member supervisory board, an Administrator, and a Deputy Administrator, all of whom are appointed by the President of the United States. Five members of the board are United States citizens and four members, Panamanian citizens. Five board members, of whom at least three are U. S. nationals, constitute a quorum for the conduct of business. The Administrator is a U. S. citizen and the Deputy Administrator, a Panamanian national. In 1990, under the terms of the treaty, the Administrator will be a Panamanian and the Deputy, a U. S. national; however, the U. S. majority on the board will continue to the year 2000.

Financial Structure

3. The Panama Canal Commission is a self-sufficient, appropriated fund agency of the United States government. As such, the Commission seeks authorization and appropriations annually for its capital and operating requirements; and all revenues and cash collected are deposited in the U. S. Treasury. The source of the appropriations to operate and improve the Canal is the revenues generated from customers using the Canal.

4. The Commission has successfully balanced all expenditures with revenues over the first six years of its existence while dealing with cumulative revenues and expenses each of approximately $2.4 billion. This accomplishment demonstrates the commitment to conform to the legal mandate to

operate the Canal as near as practicable on a breakeven basis and at no cost to the U. S. taxpayer.

Appropriation Requirements

5. For 1987, the Commission requests an appropriation of $437,250,000, of which $409,770,000 is for operating expenses and, $27,480,000 is for capital projects and equipment acquisitions. The FY 1987 receipts to be deposited in the U. S. Treasury are estimated at $443,970,000, including operating revenues of $437,370,000, advanced reservation fees collection of $6,500,000, and sale of fixed assets of $100,000. Of the total receipts, $8,700,000 are estimated to cover interest on the investment of the United States in the Panama Canal, pursuant to Public Law 99-195. Details of the appropriation requirements and the deposits into the U. S. Treasury are included under Tab 2.

Operating Expenses

6. Total operating costs, including depreciation, in 1987 are estimated at $437,370,000. This amount includes payments to Panama totaling $78,030,000, comprising a net tonnage payment of $58,030,000, a fixed annuity of $10,000,000, and a payment for public services of $10,000,000. Other major cost components are the reimbursement to the Civil Service Retirement Fund for early retirement benefits provided Commission employees ($19,560,000) and the interest on the net direct investment of the United States in the Canal ($ 8,700,000). The Commission estimates a breakeven operation in 1987. The 1987 budget estimates do not include a payment to the Republic of Panama pursuant to paragraph 4(c), Article XIII of the Treaty commonly referred to as the contingency payment covering any possible profit margin.

7. Operating revenues in 1987 are estimated to be $437,370,000. Of this total, $312,000,000 derive from tolls assessed transiting vessels, and $125,370,000 are principally from revenues for services provided

transiting vessels, but also from reimbursements from the Republic of Panama, other U. S. Government agencies operating in Panama, and Commission employees and others eligible for services under the terms of the Treaty.

Capital Outlay

8. The capital outlay program provides for a range of projects that are designed to improve marine safety, the Canal's operational efficiency and the capability to transit large beam ocean-going vessels, as well as to replace equipment and introduce new technology. Obligations for capital projects and equipment acquisitions projected in 1987 total $27,480,000. The 1987 program includes such major projects as the replacement of a tugboat, the replacement of two 25-ton diesel cranes, replacement and addition of transit equipment, replacements of electric transformers containing the toxic chemical PCB, and the provision for a fire protection system at locks facilities.

Amounts Available for Appropriation

9. Section 1302 of the Panama Canal Act of 1979 establishes the amount of funds that can be appropriated to the Commission in any one year. The following tabulation summarizes the actual and estimated balances available to the Commission under the Panama Canal Act:

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Unappropriated balance, start of year	171,230	180,787	159,507
Reimbursement to General Fund	...	...	-85,583
Receipt deposits	416,107	436,573	443,970
Total available for appropriation	587,337	617,360	517,894
Appropriations for operations and capital outlay	-429,846	-425,784	-437,250
Appropriation (P.L. 99-195)	...	-6,450	-8,700
Unobligated balance returned to unappropriated offsetting receipts	22,373	...	...
Prior year obligations	923	...	...
Supplemental requested	...	-25,619	...
Unappropriated balance, end of year	180,787	159,507	71,944

Change in the Appropriation Language

10. The appropriation language for fiscal year 1987 provides for a single appropriation totaling $437,250,000. This amount provides $409,770,000 for operating expenses, and $27,480,000 to remain available until expended for capital outlay. In addition, the language provides for (1) the termination of the special Panama Canal Commission Fund; (2) the transfer of the unappropriated balance of receipts in the Panama Canal Commission Fund as of September 30, 1986, to the General Fund of the Treasury; and (3) a change in references to "revenues deposited in the Panama Canal Commission Fund" that appear in the Panama Canal Act of 1979 to mean "receipts of the Panama Canal Commission deposited in the General Fund of the Treasury."

FY 1986 Supplemental Request

11. The Commission is requesting a supplemental appropriation totaling $25,618,754.72 to be derived from the special Panama Canal Commission Fund. Of this amount, $1,118,754.72 shall be available for payment to the Republic of Panama pursuant to Article XIII, paragraph 4(c), of the Panama Canal Treaty of 1977; and $24,500,000.00 shall be available to the Commission to settle certain costs of vessel accident claims pursuant to Public Law 99-209, enacted December 23, 1985. The $1,118,754.72 represents the Commission's FY 1985 operating surplus and by treaty is required to be paid to the Republic of Panama. The $24,500,000 covers the cost of claims in excess of $120,000 for vessel accidents occurring outside the locks during the period fiscal years 1980 through 1986.

Application of Gramm-Rudman Act

12. Details of the impact of the Gramm-Rudman Act on the Panama Canal Commission are identified under Tab. 4.

Conclusion

13. All appropriations requested are in conformity with the legislation governing the availability of funds to the Commission, and no expenditures are programmed or anticipated from the Emergency Fund.

PANAMA CANAL COMMISSION
OPERATING AND CAPITAL EXPENSES
Program and Financing
(Including FY 1986 Supplemental Requirements)

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Program by Activities:			
Direct Program:			
1. Transit operations	250,738	285,098	265,104
2. Supporting operations	57,099	64,482	68,350
3. Administrative and general	71,731	75,204	76,316
4. Interest payment to U. S. Treasury	...	6,450	8,700
5. Contingency payment to Panama	2,705	1,119	...
Total direct program	382,273	432,353	418,470
Reimbursable program	5,333	3,262	3,148
Total operating obligations	387,606	435,615	421,618
Capital investment, funded:			
1. Transit operation projects	18,053	20,727	17,485
2. General support projects	5,100	6,205	5,290
3. Utilities projects	2,068	3,864	4,205
Total capital investment obligations	25,221	30,796	26,980
Total obligations	412,827	466,411	448,598
Financing:			
Offsetting collections from: Federal Funds	-5,333	-3,262	-3,148
Recovery of prior year obligations	-201	...	...
Unobligated balance available, start of year.	-19,193	-19,373	-14,077
Unobligated balance available, end of year	19,373	14,077	14,577
Unobligated balance lapsing	22,373	...	...
Budget authority	429,846	457,853	445,950
Budget Authority:			
Appropriation (Current Definite)	429,846	425,784	437,250
Appropriation (Current Indefinite P.L. 99-195)	...	6,450	...
Appropriation (Permanent Indefinite P.L. 99-195)	...	...	8,700
Supplemental requested	...	25,619	...
Appropriation (adjusted)	429,846	457,853	445,950
Relation of obligations to outlays:			
Obligations incurred, net	407,494	463,149	445,450
Obligated balance, start of year	64,905	58,590	71,538
Obligated balance, end of year	-58,590	-71,538	-68,063
Adjustments in expired accounts	-993	...	...
Adjustments to unexpired accounts	-201	...	...
Outlays	412,614	450,201	448,925

PANAMA CANAL COMMISSION
Revenue and Expense

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenues:			
Transit operations	361,832	379,435	383,762
Supporting operations	44,445	50,631	53,172
Administrative and general	446	407	436
Total	406,723	430,473	437,370
Less: Capital advance included in tolls collection	...	-3,091	...
Total operating revenues	406,723	427,382	437,370
Expenses:			
Transit operations	269,164	276,352	283,576
Supporting operations	62,949	68,917	70,531
Administrative and general	73,491	82,113	83,263
Total operating expenses	405,604	427,382	437,370
Operating margin or cost (-)	1,119	...	...

Statement of Deposits in the U.S. Treasury

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Operating Revenues from:			
Tolls	300,808	307,909	312,000
Navigation services	55,628	62,630	65,270
Utilities services	41,928	48,397	50,870
Fire Protection services	3,892	4,346	4,966
Housing rentals	2,149	1,852	1,897
All other operating revenues	2,318	2,248	2,367
Total operating revenues	406,723	427,382	437,370
Other collections:			
Capital factor collected in tolls	...	3,091	...
Booking fees	5,754	6,000	6,500
Sale of fixed assets	87	100	100
All other	3,543	...	...
Total other collections	9,384	9,191	6,600
Total deposits	416,107	436,573	443,970

PANAMA CANAL COMMISSION
Summary of Operating Expenses by Activity

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Transit Operations:			
Maintenance of channels, dams and spillways ...	42,414	38,581	38,562
Navigation service and control	66,727	72,594	72,969
Lock operations	42,847	45,452	47,376
General repair, engineering, and maintenance services	51,577	48,571	48,351
Fire and facility protection services..........	9,564	9,565	10,673
Payments to Panama	72,803	74,343	78,030
Other general canal expense	16,057	17,891	18,321
Subtotal	301,989	306,997	314,282
Intra-Commission transfers	-32,825	-30,645	-30,706
Transit operations net costs	269,164	276,352	283,576
Supporting Operations:			
Supply services	24,324	27,418	28,344
Motor transportation	8,972	9,634	9,842
Power system	27,527	31,507	32,569
Communications system	5,965	6,301	6,726
Water system	6,014	6,011	6,249
Central air conditioning	1,492	1,673	1,722
Housing	6,894	4,605	4,188
General support services	5,856	6,452	6,352
Subtotal	87,044	93,601	95,992
Intra-Commission transfers	-24,095	-24,684	-25,461
Supporting operations net costs..............	62,949	68,917	70,531
Administrative and General Expenses:			
Executive direction	9,304	10,801	11,164
Operations direction	1,919	1,847	1,870
Financial management	10,663	11,183	11,621
Personnel administration	4,990	5,826	6,006
Employment costs	4,263	5,302	5,325
Interest on U. S. investment	7,713	8,600	8,700
Amortization of early retirement costs	19,560	19,560	19,560
Other general expenses	15,079	18,994	19,017
Total administrative and general expenses ...	73,491	82,113	83,263
Total Operating Expenses	405,604	427,382	437,370

PANAMA CANAL COMMISSION
Canal Traffic and Tolls

	1985 Actual	1986 Estimate	1987 Estimate
	(Dollars in thousands)		
Tolls Income:			
Commercial traffic:			
Ocean-going	$298,498	$308,297	$309,297
Small craft	74	88	88
Total commercial tolls	$298,572	$308,385	$309,385
U.S. Government traffic:			
Ocean-going	2,224	2,600	2,600
Small craft	12	15	15
Total U. S. Government tolls	2,236	2,615	2,615
Total tolls	$300,808	$311,000	$312,000
Number of Transits:			
Commercial traffic:			
Ocean-going	11,515	11,805	11,840
Small craft	793	800	800
Total commercial	12,308	12,605	12,640
United States Government traffic:			
Ocean-going	129	150	150
Small craft	273	320	320
Total U. S. Government	402	470	470
Total revenue transits	12,710	13,075	13,110
Free transits, not included:			
Ocean-going	10	10	10
Small craft	46	60	60
Total free transits	56	70	70
Total number of transits	12,766	13,145	13,180
Other Data:			
Average number of ocean-going vessels per day	31.9	32.8	32.9
Total Panama Canal net tons transiting (in thousands)	170,338	175,300	175,850

PANAMA CANAL COMMISSION
Traffic and Tolls Statistics

Fiscal Years Actual 1971 thru 1985 - Estimated 1986 and 1987

	Number of Transits				
Fiscal Year	Commercial Revenue Transits	U.S. Government Vessels	Total Revenue Transits	Total Tolls (In thousands of Dollars)	PCC Net Tonnage (In millions)
1971	14,601	626	15,227	100,567	115.0
1972	14,453	561	15,014	101,488	116.3
1973	14,563	491	15,054	113,381	129.1
1974	14,859	358	15,217	121,320	138.1
1975	14,413	280	14,693	143,332	136.6
1976	12,902	221	13,123	134,988	128.6
19TQ	3,241	54	3,295	35,465	33.9
1977	12,655	365	13,020	164,685	134.2
1978	13,469	290	13,759	195,735	157.7
1979	13,871	426	14,297	209,520	168.5
1980	14,295	377	14,672	293,444	183.2
1981	14,675	314	14,989	303,080	189.5
1982	14,839	351	15,190	325,589	204.0
1983	12,517	367	12,884	287,791	170.6
1984	12,032	378	12,410	289,155	163.8
1985	12,308	402	12,710	300,808	170.3
1986 (Est.)	12,605	470	13,075	311,000	175.3
1987 (Est.)	12,640	470	13,110	312,000	175.9
Monthly Fiscal Year 1985					
October, 1984	1,026	54	1,080	25,321	14.3
November	999	34	1,033	24,307	13.7
December	997	45	1,042	25,176	14.2
January, 1985	983	34	1,017	24,643	14.0
February	943	38	981	23,429	13.2
March	1,110	32	1,142	25,058	14.2
April	1,081	24	1,105	24,850	14.0
May	1,128	41	1,169	26,813	15.2
June	1,050	17	1,067	24,709	14.0
July	1,038	36	1,074	26,480	15.1
August	992	28	1,020	25,494	14.5
September ...	961	19	980	24,526	13.9
Total FY 1985	12,308	402	12,710	300,808	170.3
Fiscal Year 1986					
October, 1985	1,076	35	1,111	27,796	15.8
November	1,055	39	1,094	27,318	15.6
December	1,023	27	1,050	26,755	15.1
FY 1986 to date	3,154	101	3,255	81,869	46.5

TRANSIT OPERATIONS
Maintenance of Channels, Dams and Spillways

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	234	113	120
Operating Expenses:			
Suction and dipper dredging operations	6,477	7,867	8,029
Other support equipment operations	4,851	5,023	5,215
Coredrill operations	2,648	1,967	2,088
Meteorological and hydrographic surveys	2,685	2,942	3,085
Maintenance, repairs and overhaul services	10,576	6,729	6,163
Supervision and general operations	2,108	2,293	2,405
Other channel maintenance	1,079	1,311	1,367
Amortization of dredge pipe	204	204	...
Depreciation and other non-fund	11,786	10,245	10,210
Total operating expenses	42,414	38,581	38,562
Intra-commission transfers	-69	-194	-194
Net operating expenses	42,345	38,387	38,368
Unfunded adjustments to net operating expenses.	-11,990	-10,449	-10,210
Change in selected resources	-98	1,320	-192
Sub-total	30,257	29,258	27,966
Funded reimbursements	74	194	194
Total operating obligations	30,331	29,452	28,160

The purpose of this function is to maintain proper navigation depth in the channel. It also includes: (1) observation and study of meteorological, hydrographic, and seismologic conditions and (2) operation and maintenance of a wide range of equipment and facilities such as channel lights, beacons, buoys and other navigation aids, the dams and spillways, and other earth works and structures adjacent to the waterway.

Revenue is derived from sales of services to outside agencies or private organizations on an unscheduled basis such as "heavy lift" services of the floating cranes Goliath and Hercules or the craneboat Atlas.

Operating expenses include:

Suction and dipper dredging operations - Dredge operating costs including running maintenance performed by the crew, supplies and materials, and supporting equipment, such as pipe lines, and launch and tug support.

Other support equipment operations - Operating costs of the dredging tug and launch fleet, craneboat Atlas, and the floating cranes Hercules and Goliath.

Coredrill operations - Operating cost of the drillboat Thor, including explosives and operating costs of land coredrill equipment used in Canal deepening and widening projects, bank stabilization program and instrumentation of dams, spillways, etc.

Meteorological and hydrographic - Operating costs of the Meteorological and Hydrographic Branch, which manages the water resources. Dredging requirements are verified through hydrographic surveys. Functions include operation of rainfall measurement stations, meteorological forecasts, flood control, topographic surveys, etc.

TRANSIT OPERATIONS
Maintenance of Channels, Dams and Spillways (Cont'd)

Maintenance, repairs, and overhaul services - Cost of the major maintenance and overhaul of Dredging floating equipment which is usually accomplished by the Industrial Division on a cost transfer basis. Also includes the cost of maintenance and repair of the Canal's navigational aids and Dredging Division facilities.

Supervision and general operations - Costs not assigned to specific functions, e.g., supervision, administration, logistics, etc.

Other channel maintenance - Costs of remedial work on slide areas, bank erosion, maintenance of the Atlantic breakwater, maintenance of dams and spillways, oil pollution and debris control, and other projects to ensure the safety and stability of the Canal.

Navigation Service and Control

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenues:			
Harbor pilotage	2,565	2,900	3,200
Handling ships' lines	22,231	24,263	25,427
Tug and launch services	30,547	35,137	36,313
Wharfage, moorings, right of basin, etc.	285	330	330
Total revenue	55,628	62,630	65,270
Operating Expenses:			
Transit and port pilotage	25,219	26,323	26,136
Vessel control, admeasurement and dispatch	4,420	4,639	4,863
Handling ships' lines	12,530	13,605	13,998
Tug and launch operations	17,598	20,059	20,254
Supervision and general operations	2,676	3,323	3,080
Depreciation	1,784	2,145	2,138
Accrual for floating equipment overhaul	2,500	2,500	2,500
Total operating expenses	66,727	72,594	72,969
Intra-commission transfers	-55	-12	...
Net operating expenses	66,672	72,582	72,969
Unfunded adjustments to net operating expenses.	-1,670	-1,895	-1,788
Change in selected resources	296	-644	-1,094
Sub-total	65,298	70,043	70,087
Funded reimbursements	55	12	...
Total operating obligations	65,353	70,055	70,087

The navigation service and control function is responsible for vessel transits through the Canal, vessel docking, and related services such as tug and launch service, boarding and admeasuring services, traffic control, and linehandling services.

TRANSIT OPERATIONS
Navigation Service and Control (Cont'd)

Revenues are derived from:

Harbor pilotage - Providing pilotage services for vessel movements in and around harbors and piers.

Handling ships' lines - Providing deckhand services for handling ships' lines at the locks, handling tug lines, and assisting in handling lines for docking ships after transit.

Tug and launch services - Providing tug and launch services associated with assisting vessels in transiting the canal.

Wharfage, moorings, right of basin, and miscellaneous - Providing services for vessel moorings in Canal waters and berthing at Commission retained docks and piers.

Operating expenses include:

Transit and port pilotage - Cost of pilotage of transiting vessels, pilotage for vessel movements in and around harbors and piers, administrative and special duty assignments given to pilots, and advisory pilotage furnished by Dredging Division for pilotage of small vessels through the Canal. Also included are the cost of the pilot training program and other miscellaneous expenses related to pilotage.

Vessel control, admeasurement, and dispatch - Costs associated with the operation of Marine Traffic Control Center and signal stations; admeasurement and boarding services; and the operation of the Ship Data Bank Control Center.

Handling ships' lines - Cost of providing deckhand services including related supervision and clerical personnel, contract bus service to remote work sites; and other general expenses associated with handling ships' lines.

Tug and launch operations -

Tug operations - Cost of Port Engineer and towboat shore stations; tug crews (master, engineers, oilers, seamen leaders, and seamen); cost of operating supplies and materials (fuel, oil, line, and other consumables); and other services directly related to the operation of tug fleet; also cost of the towboat training program.

Launch operations - Cost of launch crews and launch dispatcher, cost of supplies and materials (fuel and other consumables), and other general expenses associated with launch services.

Supervision and general operations - Cost of supervision, administration and general support operations, including travel and per diem for employee training; and other miscellaneous costs associated with the navigation and control function.

Accrual for floating equipment overhaul - Provides for overhaul and maintenance requirements on the Commission's tugboat fleet. The cost of performing such work is allocated to operations through an annual provision based on planned overhaul, major maintenance and emergency work.

TRANSIT OPERATIONS
Lock Operations

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Operating Expenses:			
Lockage operations	11,717	12,229	12,585
Locks maintenance and repair	23,317	24,993	26,248
Administration, supervision, and general operations	1,602	1,644	1,727
Accrual for lock overhauls, nonfund	3,799	3,964	4,215
Depreciation	2,412	2,622	2,601
Total operating expenses	42,847	45,452	47,376
Unfunded adjustments to total operating expenses	168	-2,263	-1,971
Change in selected resources	226	1,464	-143
Total operating obligations	43,241	44,653	45,262

This activity is responsible for the direct supervision, operation, and maintenance of the locks and appurtenances, including periodic major overhauls of the underwater portions of the locks.

Operating expenses include:

Lockage operations - Cost of locks personnel handling vessels at the locks including towing-locomotive operators, lockmasters, control house personnel, boatmen, etc.

Locks maintenance and repair - Costs of repairs and/or maintenance of machinery and equipment and structures at the three sets of locks.

Administration, supervision, and general operations - Management and general operations personnel services cost, supplies and materials, and other general expenses.

Accrual for lock overhauls, nonfund - The method used for accruing the cost of overhauling the locks is a moving average recognizing differences in the actual and estimated costs as they become known.

Schedule of Overhaul Expenditures

Year	Description of Work	(in thousands) Expenditures
1985	Overhaul Gatun locks miter gate numbers 21 through 24, Caisson #2, elevators and measuring devices	4,835
	Preparation for FY 1986 Pedro Miguel locks overhaul	1,544
1986	Overhaul Pedro Miguel locks miter gate numbers 50 through 53, complete Caisson #2, elevators and measuring devices	3,723
	Preparation for FY 1987 Miraflores locks overhaul	600
1987	Overhaul Miraflores locks miter gate numbers 120 through 123, caissons and elevators	4,245
	Preparation for FY 1988 Miraflores locks overhaul - miter gate numbers 104 through 107	600

TRANSIT OPERATIONS
General Repair, Engineering and Maintenance Services

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	1,270	1,346	1,406
Operating Expenses:			
General maintenance	18,728	17,522	17,168
Vessel repair services	17,454	15,729	15,536
Electrical services	6,169	5,708	5,734
Grounds and sanitation management services	4,532	4,615	4,770
Engineering services	2,581	2,715	2,869
Contract and inspection services	811	896	933
General laboratory services	420	391	385
Depreciation	882	995	956
Total operating expenses	51,577	48,571	48,351
Intra-commission transfers	-32,701	-30,439	-30,512
Net operating expenses	18,876	18,132	17,839
Unfunded adjustments to net operating expenses	-882	-995	-956
Changes in selected resources	336	436	-550
Sub-total	18,330	17,573	16,333
Funded reimbursements	5,136	2,781	2,821
Total operating obligations	23,466	20,354	19,154

This activity provides the wide range of maintenance and repair work on structures, floating equipment, and shop and construction equipment necessary for the safe and efficient operation of the total Canal enterprise. Also included are related engineering services such as surveys, preparation of designs, cost estimates and specifications for work, and the general supervision and administration of construction work performed by private contracting firms.

Revenues are received from services provided other government agencies, such as the maintenance of Navy facilities at Galeta Island and repair of miscellaneous facilities and equipment as requested. Revenues are also received from refuse disposal and grounds care services provided by contractual arrangement for Department of Defense activities and facilities.

Operating expenses include:

General maintenance - Cost of maintenance and improvements to Commission buildings, employee housing, and certain sewer systems; locks rehabilitation work and overhaul support (exclusive of work performed by contract).

Vessel repair services - Cost of operating a repair facility for Commission floating equipment including design, overhaul, and repair; maintenance of salvage and diving capability; performance of marine damage surveys; and inspection and certification of cranes and elevators.

Electrical services - Cost of providing electrical maintenance and repair for Commission buildings and employee housing, and maintenance support for Commission units as required.

TRANSIT OPERATIONS

General Repair, Engineering and Maintenance Services (Cont'd)

Grounds and sanitation management - Cost of environmental sanitation and grounds care activities in Commission housing and Canal operating areas. Also includes cost of operating and maintaining sanitary landfill disposal sites, one each on the Atlantic and Pacific side of the Isthmus.

Engineering services - Cost of all engineering and architectural designs, estimates, specifications, and all pre-contract functions; engineering studies; and annual inspection program for buildings and structures.

Contract and inspection services - Cost of contract construction management including contract formation and award, quality and safety assurance, construction problem resolution, contract modifications, and payment approval.

General laboratory services - Cost of operating an environmental and testing laboratory in the Water and Laboratories Branch at Miraflores. Functions of the laboratory include tests on construction materials; miscellaneous chemical and physical analyses; testing of such items as paint, oil, corrosion products, and soils; monitoring salt and fresh water quality; air quality study testing; and analysis of oil and industrial hygiene samples.

Fire and Facility Protection Services

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	3,892	4,346	4,966
Operating Expenses:			
Fire protection	4,450	4,491	4,967
Facility protection	5,080	5,035	5,667
Depreciation	34	39	39
Total operating expenses	9,564	9,565	10,673
Unfunded adjustments to total operating expenses	-34	-39	-39
Changes in selected resources	132	-7	-8
Total operating obligations	9,662	9,519	10,626

This activity provides for fire and facility protection services in Canal operating and other areas as specified under the Treaty and in accord with joint agreements between the Republic of Panama and the Commission.

Revenue is derived from fire protection services provided to Department of Defense sites within the Canal area.

Operating expenses include:

Fire protection - Cost of firefighting and fire protection services throughout Canal Commission areas, defense sites, military areas of coordination and shipping in cooperation with the Cuerpo de Bomberos de Panama (Fire Department of Panama).

Facility protection - Cost of protection and security of selected Commission installations which are vital to the operation, management, and maintenance of the Panama Canal.

TRANSIT OPERATIONS
General Canal Expense

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Operating Expenses:			
Treaty derived costs:			
Payments to Panama for public services	10,000	10,000	10,000
Fixed annuity payment to Panama	10,000	10,000	10,000
Panama Canal net tons transiting-Payment to Panama	52,803	54,343	58,030
Housing transfer cost	1,074	630	279
Cost of health services provided by DOD	3,749	4,295	4,501
Maintenance of public areas	676	600	746
Apprentice and other trainees' salaries	1,570	2,589	3,281
Occupational health and safety	1,702	1,876	1,951
Board of local inspectors	293	294	305
Special canal studies	216	565	200
Miraflores swingbridge maintenance	187	248	250
Other	466	482	501
Accrual for marine accidents and other casualty losses	5,200	5,200	5,200
Amortization of standby stock	295	295	295
Depreciation	629	817	812
Total operating expenses	88,860	92,234	96,351
Unfunded adjustments to total operating expenses	-5,609	22,038	-1,030
Change in selected resources	699	-220	-491
Total operating obligations	83,950	114,052	94,830

This category of expense comprises the annuity and public service payments to Panama; the cost of health services provided to certain elderly and disabled former employees and their dependents; a provision for damages to vessels and other casualty losses; and other miscellaneous Canal expenses.

Operating expenses include:

Treaty derived costs - Costs include payments to Panama pursuant to Articles III and XIII of the Panama Canal Treaty of 1977 and the costs associated with the treaty-related transfer of housing units to Panama.

Cost of health services provided by DOD - These health costs are for eligible individuals, widows, and dependents in the following categories: (1) Disability relief annuitants; (2) Civil Service annuitants (U. S. citizens retired before July 1, 1960 and non-U. S. citizens retired before November 1, 1970); (3) U. S. citizen non-profit organization employees who are not required to enroll in the Panama Social Security system; and (4) former Canal Zone Government agricultural land licensees (former Canal construction workers).

Maintenance of public areas - Cost of maintaining public areas including sewers, street lighting, miscellaneous streets and parking lots in Commission operating areas.

TRANSIT OPERATIONS
General Canal Expense (Cont'd)

Operating expenses include: (Cont'd)

Apprentice and other trainees' salaries - Salaries of 1st and 2nd year apprentices training for craft positions. Also includes salaries of pilot trainees under the Pilot Understudy Program and trainees under the Cooperative Education Program.

Occupational health and safety - Costs of prevention of occupational diseases and injuries through survey of industrial operations; as well as, monitoring the health aspects of the Agency's adherence to the Occupational Safety and Health Act of 1970, Public Law 91-596.

Board of local inspectors - Cost of board operation which includes principally investigations of marine accidents (including accidents in and outside the locks and in the terminal port areas involving Commission personnel and equipment).

Special canal studies - Costs of investigative methods to improve operation or maintenance of the Canal including a study to improve navigation in Gaillard Cut.

Miraflores swingbridge maintenance - Cost of maintaining the Miraflores Swingbridge.

Accrual for marine accidents and other casualty losses - Cost of annual accrual for Commission's "self-insurance" for marine accident costs and other casualty losses.

SUPPORTING OPERATIONS
Supply and Logistical Services
Supply Services

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:			
Sale of goods	85	110	116
Sale of services	133	116	122
Total revenue	218	226	238
Operating Expenses:			
Cost of goods	18,344	19,233	19,767
Warehouse operations	2,604	2,862	3,058
Procurement operations	909	1,030	1,097
Excess property and office furniture operations	208	240	192
Management and general operations	2,019	3,564	3,843
Depreciation and other nonfund	240	389	387
Total operating expenses	24,324	27,418	28,344
Intra-commission transfer	-17,764	-18,961	-19,488
Net operating expenses	6,560	8,457	8,856
Unfunded adjustments to net operating expenses.	-114	-89	-87
Change in selected resources	1,471	1,887	2,139
Total operating obligations	7,917	10,255	10,908

SUPPORTING OPERATIONS
Supply and Logistical Services
Supply Services

This activity is comprised of the storehouse operations and provides for the purchasing, warehousing and issuing of supplies and materials required by Commission units. This includes operation of a procurement office in New Orleans and a furniture and equipment pool; collecting and processing scrap for sale; and public sale of surplus and obsolete equipment and materials.

Revenue is derived from the sale of supplies and material to the Armed Forces, other U. S. Government agencies, and authorized purchasers. Revenue is also generated from scrap and salvage sales.

Operating expenses includes the cost of such activities as:

Procurement and warehouse operations - Provides for procuring and maintaining an inventory of supplies and materials required for day-to-day operations.

Excess disposal and office furniture operations - Provides for the operation of an office furniture and equipment pool, and the public sale of surplus and obsolete equipment and material.

Motor Transportation

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	15	20	20
Operating Expenses:			
Motor vehicle operations	2,879	3,106	3,262
Repair shops	2,947	3,096	3,196
Administrative and general expense	2,015	2,086	2,122
Depreciation	1,131	1,346	1,262
Total operating expenses	8,972	9,634	9,842
Intra-commission transfers	-15	-22	-33
Net operating expenses	8,957	9,612	9,809
Unfunded adjustments to net operating expenses	-1,131	-1,346	-1,262
Change in selected resources	9	68	69
Sub-total	7,835	8,334	8,616
Funded reimbursements	15	22	33
Total operating obligations	7,850	8,356	8,649

SUPPORTING OPERATIONS
Supply and Logistical Services
Motor Transportation (Cont'd)

This activity operates and maintains a consolidated motor vehicle pool system and facilities in support of Commission operations. Types of vehicles provided, serviced, and repaired include construction, material handling, firefighting, grounds maintenance, heavy equipment, and other miscellaneous vehicles. This activity also provides miscellaneous repair services to other units of the Commission.

Revenue is derived from charges for weighing of vehicles.

Operating expenses include:

Motor vehicles operations - Cost of maintaining and operating the Motor Transportation Division facilities.

Repair shops - Cost of operating shops which provide for the repair and servicing of Commission motorized equipment and stationary machinery, and the operation of a tire recapping plant for official vehicles.

Utilities
Power System

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	28,056	34,230	36,360
Operating Expenses:			
Power generation	22,365	26,949	28,012
Power transmission and distribution	3,043	2,361	2,348
Supervision and general operations	460	643	692
Depreciation	1,659	1,554	1,517
Total operating expenses	27,527	31,507	32,569
Intra-commission transfers	-6,263	-5,448	-5,840
Net operating expenses	21,264	26,059	26,729
Unfunded adjustments to net operating expenses	-1,659	-1,554	-1,517
Change in selected resources	-1,469	-1,500	49
Total operating obligations	18,136	23,005	25,261

The power system operates and maintains generating stations, transmission lines, substations, and distribution systems to furnish electric power throughout the Canal area. Power is also purchased to augment the system's generating capacity. During periods when there is an adequate supply of water in Gatun and Madden Lakes, maximum possible power is supplied from Commission hydroelectric and steam sources. Additional load variations up to peak demands are supplied from gas turbines and purchased power which also substitutes for base load units requiring emergency or planned maintenance. During the dry season, hydroelectric generation is curtailed to conserve water for transits and the energy is supplied from the most economical available source.

SUPPORTING OPERATIONS
Utilities
Power System (Cont'd)

Operating expenses include:

Power generation - Cost of power generated by both hydroelectric and thermal means by Commission-owned and operated generating plants. Maintenance of generating equipment is included in this function also.

Power transmission and distribution - Includes power distribution costs and maintenance of the power distribution system, including transmission lines, transformers, switching gear for the canal operating areas. (The U. S. military forces and Government of Panama are responsible for maintaining transmission lines within their respective areas).

Supervision and general operations - Costs associated with the administration of the power system including engineering, administrative, and clerical support personnel and maintenance of buildings and structures under the responsibility of the power branch.

Communications System

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	911	1,012	1,008
Operating Expenses:			
Maintenance and operation of telephone systems	1,821	1,758	1,821
Maintenance and operation of electronic systems	2,461	2,700	2,899
Supervision and general	980	978	996
Depreciation	703	865	1,010
Total operating expenses	5,965	6,301	6,726
Intra-commission transfers	-53	-253	-100
Net operating expenses	5,912	6,048	6,626
Unfunded adjustments to net operating expenses	-703	-865	-1,010
Changes in selected resources	160	51	32
Sub-total	5,369	5,234	5,648
Funded reimbursements	53	253	100
Total operating obligations	5,422	5,487	5,748

The Communications Branch provides full scope telecommunications and electronics services for the Commission; procurement, installation, and maintenance of facilities and equipment; and, where appropriate, operation of systems, such as telephone, microwave, radio paging, data transmission, and other communications systems throughout the Canal areas to support Canal operations.

Operating expenses include:

Maintenance and operation of telephone systems - Cost of basic telephone service and standard maintenance of central office equipment, outside plant and microwave and related systems. Also includes the cost for providing maintenance services on specialized telephone systems owned and operated by other Commission units.

SUPPORTING OPERATIONS
Utilities
Communications System (Cont'd)

Maintenance and operation of electronic systems - Cost of maintaining radio systems, digital systems and electronic equipment in general. Also includes the cost for providing maintenance service on specialized electronic systems owned and operated by other Commission units.

Supervision and general - Costs associated with the administration of the communication systems, including cost of safety programs and other miscellaneous costs.

Water System

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	11,278	11,400	11,700
Operating Expenses:			
Pumping operations	2,530	2,326	2,436
Filtration operations	1,628	1,729	1,777
Reservoir and water line maintenance	763	823	858
Miscellaneous operations and maintenance	310	427	453
Supervision and general operations	421	349	377
Depreciation	362	357	348
Total operating expenses	6,014	6,011	6,249
Unfunded adjustments to net operating expenses	-362	-357	-348
Change in selected resources	184	334	345
Total operating obligations	5,836	5,988	6,246

The water system consists of two principal units, one serving the Pacific side of the Isthmus, including Panama City, and the other serving the Atlantic side, including the city of Colon. Raw water is pumped to filtration plants where it is filtered, treated, and then distributed to Canal and military operating areas and Panama. Revenue is derived principally from sale of treated water to Panama.

Operating expenses include the following:

Pumping operations - Cost of operating and maintaining water pumping equipment located at various pump stations throughout the Canal operating area, i.e., Balboa, Gamboa, Los Rios, Miraflores and Paraiso.

Filtration operations - Cost of operating and maintaining the two water filtration plants located at Miraflores and Mt. Hope.

Reservoir and water line maintenance - Cost of maintaining water reservoirs and distribution lines.

Miscellaneous operations and maintenance - Cost of maintaining water system equipment and water meters.

Supervision and general operations - Cost of administering the Water System including sanitary engineering, administrative, and clerical support personnel.

SUPPORTING OPERATIONS
Utilities
Central Air Conditioning Service

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	1,683	1,755	1,802
Operating Expenses:			
Operation and maintenance	1,398	1,579	1,628
Depreciation	94	94	94
Total operating expenses	1,492	1,673	1,722
Unfunded adjustments to total operating expenses	-94	-94	-94
Total operating obligations	1,398	1,579	1,628

This operation consists of a chilled water pumping and cooling plant in the Balboa area which chills and distributes water to users by means of insulated pipes. Two loops of insulated pipes are used, one carrying chilled water to the buildings in the Ancon area and the second serving the Balboa area. The buildings served provide the necessary air distribution systems, heat exchange equipment, and humidity controls. The Commission provides air conditioning service, on a reimbursable basis, for connected buildings transferred to Panama and other U. S. Government agencies.

Other Supporting Services
Housing

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	2,149	1,852	1,897
Operating Expenses:			
Quarters operation	424	320	305
Quarters maintenance	4,575	3,196	3,210
Supervision and general operations	590	640	661
Depreciation and other nonfund expense	1,305	449	12
Total operating expenses	6,894	4,605	4,188
Unfunded adjustments to total operating expenses	-1,305	-449	-12
Changes in selected resources	-589	13	-33
Total operating obligations	5,000	4,169	4,143

SUPPORTING OPERATIONS
Other Supporting Services
Housing (Cont'd)

The expenses shown represent the operation and maintenance costs associated with providing living quarters in the Canal operating areas for employees of the Panama Canal Commission and to certain other individuals eligible for quarters. These costs pertain to housing units that are under the full control of the Commission for its employees and others eligible for such housing. Revenue is derived from the rent charged to certain Commission employees who are not eligible for the equity adjustment and other individuals who are eligible for these quarters.

Operating expenses include:

Quarters operation - Cost of miscellaneous services and the purchase of electric ranges, fire extinguishers, etc.

Quarters maintenance - Cost of routine and emergency repairs to quarters structures and related facilities (wiring, plumbing, sewage lines, electric panels, water heaters, lighting receptacles, plumbing and lighting fixtures), including interior and exterior painting of quarters.

Supervision and general operations - Costs associated with the administration and management of housing policies and regulations, assignment of quarters, settling of occupant living condition complaints, and quarters operation and maintenance supervision.

General Support Services

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:			
Commission buildings	112	116	122
Printing office	23	20	25
Total revenue	135	136	147
Operating Expenses:			
Commission buildings	3,697	4,104	3,885
Printing office	890	1,032	1,116
Employee fitness program	748	841	887
Depreciation and other nonfund	521	475	464
Total operating expenses	5,856	6,452	6,352
Unfunded adjustments to total operating expenses	-521	-475	-464
Change in selected resources	273	-59	12
Total operating obligations	5,608	5,918	5,900

Revenue includes - Payments received from concessionaires for space rented in Commission buildings and certain printing services provided other Government agencies.

SUPPORTING OPERATIONS
OTHER SUPPORTING SERVICES
General Support Services (Cont'd)

Operating expenses include:

Commission buildings - Cost of repair, alterations, and maintenance of Commission office, warehouse, and other buildings. Also provides custodial services to Commission buildings.

Printing office - Costs of operating a printing plant which provides press, duplicating, and related services. This activity is a Government field printing plant authorized under regulations of the Joint Committee on Printing.

Employee fitness program - Cost includes the operation of swimming pools; maintenance of tennis courts; and conduct of off-duty morale support activities for the benefit of all Commission employees and their dependents; and furnishing a modest level of sporting equipment for certain community activities in Commission areas.

ADMINISTRATIVE AND GENERAL EXPENSES
Executive Direction

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue	24	26	27
Operating expenses:			
Supervisory board	59	67	72
Office of the Administrator and staff	4,103	4,505	4,739
Official residence	48	77	60
Office of the Commission secretary	357	375	400
Administrative services	2,905	3,609	3,661
Office of public affairs	1,326	1,470	1,541
Guide services	189	207	202
Consultants and advisors	221	384	386
Depreciation	96	107	103
Total operating expenses	9,304	10,801	11,164
Unfunded adjustments to total operating expenses	-96	-107	-103
Change in selected resources	-34	3	1
Total operating obligations	9,174	10,697	11,062

Executive direction provides for the management, planning, direction and control of overall Commission activities and operations.

This function includes such major activities as:

Supervisory board - Establishes policies for the Panama Canal Commission. Also provides for a modest amount of reception and representation expense of the Board.

ADMINISTRATIVE AND GENERAL EXPENSES
Executive Direction (Cont'd)

Office of the Administrator and staff - Exercises general and active control over the Commission's offices, business and operations, and general supervision over its agents, attorneys and employees. Also provides for the Administrator's official reception and representation expense, and a modest contingency for cash grants to assist community and recreational organizations in Commission areas.

Official residence - Provides for essential costs necessary to maintain the historical residence of the head of the agency which serves the dual purpose of providing facilities for official functions and also living quarters for the Administrator of the Panama Canal Commission. Included here are costs of maintenance and utilities. Does not include wages and other personnel benefits of staff, guards, etc.

Office of the Commission secretary - Located in Washington, D. C., and has primary responsibility for liaison with the Congress and Federal Government departments and agencies. Also provides for the Secretary's official reception and representation expense.

Administrative services - General administrative services performed for the Commission such as records management, forms control, messenger and mail services, microfilming, translation and interpreter services, issuance of identification documents for employees and dependents, and issuance of travel and transportation orders.

Office of public affairs - Responsible for public affairs and information activities, press and news releases, and the publication of a biweekly newspaper in English and Spanish. Provides communication with Canal "customers", the maritime industry. Also includes the graphics and audio-visual service.

Guide service - Provides orientation for official visitors and the public concerning the history and current operations of the Panama Canal. Also includes the maintenance of the visitors' observation sites in the Canal area.

Consultants and advisors - Provides for consultants for special studies, including Canal improvements and organizational studies.

Operations Direction

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Office of the marine director	479	508	530
Office of the engineering and construction director	532	569	593
Office of the general services director	907	769	746
Depreciation	1	1	1
Total operating expenses	1,919	1,847	1,870
Unfunded adjustments to total operating expenses	-1	-1	-1
Changes in selected resources	28	44	14
Total operating obligations	1,946	1,890	1,883

Operations direction provides for the bureau-level direction and coordination of the non-administrative operations of the Commission.

ADMINISTRATIVE AND GENERAL EXPENSES
Operations Direction (Cont'd)

Included in this function are the costs associated with administering the directors' offices for the various non-administrative Commission operating activities including the Marine Bureau, Engineering and Construction Bureau, and General Services Bureau.

Financial Management

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	4	7	7
Operating expenses:			
Management information systems	4,236	4,363	4,591
Accounting	3,336	3,592	3,666
Financial planning, audit, treasury, systems and Office of Chief Financial Officer	3,049	3,185	3,319
Depreciation	42	43	45
Total operating expenses	10,663	11,183	11,621
Unfunded adjustments to total operating expenses	-42	-43	-45
Change in selected resources	-32	-25	-28
Total operating obligations	10,589	11,115	11,548

The financial management function is responsible for the development of financial, accounting and rate-making policies; development of financial systems and procedures; maintenance of the general books of account and the preparation of financial statements and reports; establishment of systems of internal control and the conduct of comprehensive internal audits; collection, custody and disbursement of funds and related fiscal matters; and financial planning and manpower control.

Included in this function are the costs of such major activities as:

Management information - Responsible for establishing data processing related policy and guidelines, long-range planning for the Commission's data processing requirements and facilities, and direction of the activities of the Computer Operations Division, the Data Processing Systems Division and the MIS Technical Services Staff.

Accounting - Performs the accounting and related administrative and internal control functions for the Commission including the preparation of internal and external reports of financial condition.

Financial planning, audit, treasury, systems and Office of Chief Financial Officer - The financial planning activity is responsible for budget process, rate-making policies, special financial studies, manpower control, and liasion with Office of Management and Budget. The audit activity is responsible for conducting comprehensive audits, maintaining liaison with General Accounting Office and performing special audits as directed. The treasury activity is responsible for collection, custody, and disbursement of funds; and liaison with the Department of the Treasury. The systems activity develops financial and accounting policies; reviews and maintains accounting and other financial systems. The Office of Chief Financial Officer provides the financial direction and guidance for the Commission.

ADMINISTRATIVE AND GENERAL EXPENSES

Personnel Administration

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	306	352	370
Operating expenses:			
Personnel administration	2,457	2,966	3,051
Joint personnel program	623	678	713
Personnel development program:			
Training administration	1,236	1,419	1,455
Training courses	630	715	741
Depreciation and other nonfund costs	44	48	46
Total operating expenses	4,990	5,826	6,006
Unfunded adjustments to total operating expenses	-44	-48	-46
Change in selected resources	60	50	47
Total operating obligations	5,006	5,828	6,007

This function has the overall agency responsibility for personnel administration and management, training and executive development programs, and the joint personnel program that provides staffing services for participating federal agencies in the Panama Canal area on a cost-sharing basis.

Revenue is derived principally from the participation of other government agencies in the joint personnel program.

Operating expenses include the cost of the following functions:

Personnel administration - Administering the personnel function of the Commission, including personnel policy development; employment and placement of job applicants; position classification, incentive awards, insurance and retirement programs administration; employee records management; and other employee services.

Joint personnel program - Responsible for performing central recruiting and examining functions for participating Federal agencies in the Panama Canal area.

Personnel development program - Responsible for assessing overall training needs; developing and administering management and supervisory development; and the operation of an industrial training school for apprentices. Special emphasis has been placed on the need for training that will contribute to increased participation by Panamanians in all areas and levels of the Commission's work force.

ADMINISTRATIVE AND GENERAL EXPENSES

Employment Costs

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Employees' repatriation	1,213	1,259	1,318
Employees' states travel	1,468	2,165	2,132
Transportation of employees' vehicles	57	142	149
Employer's contribution to FEGLI	382	449	465
Employer's contribution to FICA and MEDICARE....	667	867	936
Equity adjustment additive	452	400	300
Commission's unemployment costs	24	20	25
Total operating expenses	4,263	5,302	5,325
Change in selected resources	-135	-	-
Total operating obligations	4,128	5,302	5,325

This category of expense covers certain employment costs of the Commission which are general in nature and not identifiable with other specific activities. Included are provisions for employees states' travel, employees' repatriation, certain other statutory employment costs, and an equity adjustment additive.

Interest Expense

FY	Average Interest-bearing Investment (In millions)	Percentage of Interest Rate	Interest Expense (In thousands of dollars)
1985 Actual	71,952	10.720	$ 7,713
1986 Estimate	77,950	11.033	8,600
1987 Estimate	79,510	10.942	8,700

The Panama Canal Commission is required to include as a part of its operating cost the interest expense on the U. S. Government's net direct investment in the Panama Canal.

The method for calculating interest expense is described in Section 1603 of the Panama Canal Act of 1979, Public Law 96-70. The rate used for determining the interest is the average coupon rate on outstanding marketable Treasury bonds in July of each year for the subsequent fiscal year. The average interest-bearing investment, the interest rate and interest expense are shown above.

In FY 1987, in accordance with Public Law 99-195, the interest on the net direct investment in the Panama Canal will be paid into the General Fund of the U. S. Treasury.

ADMINISTRATIVE AND GENERAL EXPENSES
Amortization of Early Retirement Costs

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Amortization of early retirement costs	19,560	19,560	19,560

Provides for the Commission's costs for amortizing the expense for the special retirement provisions, as described in Subchapter IV of the Panama Canal Act of 1979, Public Law 96-70. The estimate is provided by the Office of Personnel Management and is calculated on a "dynamic" basis considering future wage increases and cost-of-living increases in retirement annuities.

Other General Expenses

	1985 Actual	1986 Estimate	1987 Estimate
	(In thousands of dollars)		
Revenue:	112	22	32
Operating expenses:			
Reimbursement to DOD for education and hospital services	6,252	6,029	5,770
Employer's contribition to FEHBA	6,761	7,540	7,822
Death and disability	4,003	4,500	4,680
Alien cash relief payments and other related costs	1,533	1,501	1,412
Technical resource center	483	447	452
Incentive awards payments	548	650	650
All other direct costs	840	129	138
Repatriation variation	-3,661	-300	-300
Depreciation and other non-fund	-1,680	-1,502	-1,607
Total operating expenses	15,079	18,994	19,017
Unfunded adjustments to total operating expenses	5,338	1,802	1,907
Change in selected resources	429	16	7
Total operating obligations	20,846	20,812	20,931

This activity is charged with certain general expenses not assignable to other activities. Revenue is principally derived from interest on delinquent accounts receivable, fees collected on bad checks, etc.

Operating expenses include:

Reimbursement to Department of Defense for education and hospital services - Commission's cost for hospital and education services provided to eligible Commission employees, their dependents and certain other personnel. Also provides for a limited number of scholarships to attend the Panama Canal College.

Employer's Contribution to FEHBA - Commission's share of premium costs for employees' health benefits insurance.

ADMINISTRATIVE AND GENERAL EXPENSES
Other General Expenses (Cont'd)

Operating expenses include: (Cont'd)

Death and disability (Federal Employee Compensation Act) - Commission payments, as prescribed by the Federal Employees Compensation Act, to employees and/or survivors for job-related injuries and death.

Alien cash relief payments and Home Care Program - Cash pension payments to former non-U.S. citizen employees of the Panama Canal who separated prior to October 1958 and therefore were not covered under the Civil Service Retirement System. Payments also include widows' benefits and periodic cost-of-living adjustments. The Home Care Program, formerly Annuitant Welfare Program, provides a variety of services to aged former employees and their survivors who have meager incomes. Services include limited home medical care and other assistance as required. The Commission reimburses DOD for providing the medical services.

Technical resource center - Operating costs for a technical library which provides professional reference service to the Commission.

Incentive award payments - Costs associated with the employee recognition program which is designed to motivate and reward employee excellence through performance, suggestions and career service awards.

All other direct costs - Costs associated with severance pay and other miscellaneous services.

Repatriation expense variation (nonfund) - The expense or credit amount that results from an increase or decrease in the estimated repatriation liability.

Depreciation and other non-fund - Includes the depreciation credit for assets purchased with capital advance funds.

PANAMA CANAL COMMISSION
Detail of
Consultants and Advisors

Account Identification Number	Account Title	Type	1985 Actual	1986 Estimate	1987 Estimate
			(In thousands of dollars)		
95-0-5191	Operating Expenses	C	185	384	386
	TOTAL		185	384	386

The Panama Canal Commission consultant and advisor program is contained mostly in the Executive Direction function. Consultant contracts are utilized in Transit Operations and also General and Administrative activities.

Transit Operations .... The funds in FY 1987 provide for consultant services in support of Canal modernization and improvement. These services contribute directly to Canal operational efficiency.	-	39	41
General and Administrative .... The funds in FY 1987 provide for consultant services to provide expert advice and evaluation of a review of the tolls system; advice on vessel accident claims and other Commission litigation; Canal traffic forecasts; services in labor relations hearing cases. These services are essential to maintain efficient services and to comply fully with government regulations.	221	345	345
Total operating expenses	221	384	386
Change in selected resources	-36	-	-
Total operating obligations	185	384	386

PANAMA CANAL COMMISSION
Detail of Full-Time Equivalency

	1985 Authorized	1986 Estimate	1987 Estimate
TRANSIT OPERATIONS:			
Maintenance of channels and dams	775	762	771
Navigation services and control	1,981	1,946	1,942
Lock operations	1,323	1,332	1,332
General repairs, engineering and maintenance services....................................	1,835	1,815	1,770
Fire and facility protection services	402	363	385
General canal expense	206	186	207
Total transit operations positions	6,522	6,404	6,407
SUPPORTING OPERATIONS:			
Supply services	212	209	214
Motor transportation	342	354	348
Power system	118	116	116
Communications system	111	115	117
Water system	96	93	93
Housing	34	37	37
General support services	190	185	183
Total Supporting Operations Positions	1,103	1,109	1,108
ADMINISTRATIVE AND GENERAL:			
Executive direction	245	244	243
Operations direction	45	45	44
Financial management	305	306	306
Personnel administration	168	174	174
Others	22	18	18
Total administrative and general positions ..	785	787	785
Total full-time equivalency	8,410	8,300	8,300

PANAMA CANAL COMMISSION
Capital Program Index

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PANAMA CANAL COMMISSION CAPITAL PROGRAM
APPROPRIATION REQUIREMENTS
(In thousands of dollars)

	1987 Appropriation Required
Transit Projects	17,985
Utilities Projects	4,205
General Support Projects	5,290
Total Panama Canal Commission	27,480

PANAMA CANAL COMMISSION
CAPITAL PROGRAM SCHEDULE
Functional Analysis
(In thousands of dollars)

(Obligational Basis)	Project Total	Prior Years	1985 Actual	1986 Estimate	1987 Estimate	Subsequent Years
1. Transit Projects:						
A. Transit equipment .	74,767	14,354	9,888	15,928	12,740	21,857
B. Transit facilities.	62,135	15,807	8,165	7,090	5,245	25,828
Total Transit Projects	136,902	30,161	18,053	23,018	17,985	47,685
2. Utilities Projects:						
A. Utility systems projects	13,795	2,601	2,068	4,921	4,205	-
3. General Support Projects:						
A. General support equipment	11,478	1,945	2,699	3,574	3,260	-
B. Commission bldgs and facilities ..	4,800	568	914	1,978	1,340	-
C. Other misc. gen'l supporting proj..	3,119	675	504	1,250	690	-
D. Employee quarters .	2,706	1,591	983	132	-	-
Total General Support Projects	22,103	4,779	5,100	6,934	5,290	-
Total Capital Program	172,800	37,541	25,221	34,873	27,480	47,685
Undistributed reduction based on anticipated delays				-4,077	-4,577	
Accomplishment of prior year delays					4,077	4,577
GRAND TOTAL PANAMA CANAL COMMISSION	172,800	37,541	25,221	30,796	26,980	52,262

PANAMA CANAL COMMISSION
FY 1987 CAPITAL PROGRAM DETAIL
(In thousands of dollars)

(Obligational Basis)

	Project Total
I. Transit Projects	
A. Transit equipment:	
1. Tugboats	3,500
2. Diesel cranes	1,470
3. Launches and launch engines	580
4. Other floating equipment	1,970
5. Other transit equipment	3,680
6. Transformers containing PCB-all locks	1,540
Total transit equipment	12,740
B. Transit facilities:	
1. Fire protection - locks	1,900
2. Navigational aids	1,055
3. Other transit facilities	2,290
Total transit facilities	5,245
Total Transit Projects	17,985
II. Utilities Projects	
A. Utility systems:	
1. Electrical power and communication systems	2,855
2. Water system	1,350
Total Utilities Projects	4,205
III. General Support Projects	
A. General support equipment:	
1. Replace motor vehicles	2,485
2. Other general support equipment	775
Total General support equipment	3,260
B. Commission buildings and facilities:	
1. Commission buildings	250
2. Supporting Services facilities	1,090
Total Commission buildings & facilities	1,340
C. Other miscellaneous general support projects:	
1. Minor capital items	190
2. Advance engineering, planning, and design	500
Total Other miscellaneous support projects	690
Total General Support Projects	5,290
Total FY 1987 Capital Program	27,480

1987 Project Justifications

I. TRANSIT PROJECTS (all dollars in thousands)
Total appropriation requirement for Transit Project Group $17,985

A. Transit Equipment
Project appropriation requirement $12,740

(1) Tugboats - This is a recurring project for replacement of tugboats. The FY 1987 funds contemplate the replacement of the tugboat ROUSSEAU. The ROUSSEAU is an underpowered single screw boat which lacks sufficient bollard pull to safely and efficiently handle the increasing number of broad beam vessels transiting the Canal. Current power and pull requirements specify that tugboats should be twin screw boats and have as a minimum 3,000 horsepower with 85,000 pounds of bollard pull. Furthermore, older tugs such as the ROUSSEAU are high maintenance cost equipment and the new tugboat not only will be a more efficient power plant for Canal operating needs, but also will impact favorably on the cost of continuing maintenance. FY 1987 funding required is $3,500.

(2) Diesel Cranes at Locks - This is a project for replacement of four (4) 25-ton diesel Browning cranes which were acquired in 1956. These cranes located at the three locks, two (2) at Gatun and one (1) each at Pedro Miguel and Miraflores, have exceeded their economically serviceable life and are becoming unreliable for critical work performed during lock overhauls.

The FY 1987 funds contemplate replacement of the first two (2) cranes. The new diesel cranes will enhance efficiency during overhaul and facilitate regular operation and maintenance of the locks by utilizing state-of-the-art technology for improved safety and handling of heavy loads. Funding required in FY 1987 totals $1,470.

(3) Launches and Launch Engines - This project provides for the ongoing replacement of launches and associated engines at the end of their economically serviceable life. The Panama Canal Commission, in addition to operating a fleet of 50 inboard launches with lengths between 20 and 65 feet, operates a larger fleet of outboard launches. The average maintainable life of these launches is 15 to 20 years. The FY 1987 funds requested provide for replacement of a pilot/boarding boats ($418) and replacement of gas and diesel engines ($162).

(4) Other Floating Equipment - This project provides funding for the Commission's diversified floating equipment. These items are essential if the Commission is to continue to provide safe and efficient service to transiting vessels and provide ongoing maintenance to the channel. Replacements include a diving barge ($850), two (2) fuel barges ($734), a water barge ($216), pontoon cylinders for flotation of dredge pipe ($90), and buoys ($80).

(5) Other Transit Equipment - This project provides for the purchase and installation of miscellaneous small tools and equipment required for the safe and efficient operation of the Canal. Marine operation requirements for replacement total $473 for FY 1987 and include replacement of air compressors ($154), 5-ton deck crane ($75), and other miscellaneous items ($244). Marine operations requirement for the addition of equipment totals $97 and includes portable bridges at Pedro Miguel and Miraflores Locks ($68) and other miscellaneous items ($29).

Maintenance and repair operation requirements for replacements total $2,435 for FY 1987. These include such items as replacement of a 50-ton general purpose truck mounted crane ($385), a 40-ton bridge crane ($286), a digital recorder ($275), small work boats and outboard motors ($168), core-drilling rigs ($187), lathes ($139), a DC supply system ($109), milling machines ($105), a vertical grinding machine ($88), compressors ($77), a metal brake ($73), a horizontal press ($70), telemetering system equipment ($49), a backhoe ($45), a shaper ($45), and other miscellaneous items ($334). Maintenance and repair operation requirements for additions total $65 and include engineering data processing equipment ($47) and other miscellaneous items ($18). Other transit operation requirements for replacement items total $430 and include a crawler tractor ($300) and other miscellaneous transit operations items ($130). Other transit operation requirements for additions total $180 for the addition of security equipment.

(6) Transformers Containing PCB at Locks - This is a multiyear project which is designed to replace electrical transformers at the locks which contain the chemical contaminant PCB. PCB is a hazardous and banned substance regulated by the Environmental Protection Agency and the Toxic Substance Control Act (TSCA). Replacement transformers will contain non-PCB chemicals.

The Commission is attempting to replace transformer systems at the locks in a phased approach with emphasis on those units with the highest potential for failure or leakage. The Commission's objective is to avoid potentially harmful PCB exposure to locks personnel and the cost prohibitive clean-up and disposal procedures required by TSCA.

FY 1987 funding, $1,540, provides for the continuing replacement of 86 transformers which have been identified as deteriorated and in need of replacement. The remaining 60 transformers containing the contaminant will be replaced in subsequent fiscal years.

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$14,354	$ 9,888	$15,928	$12,740	$21,857
Expenditures	Recurring	$ 5,180	$11,516	$23,474	$12,740	$21,857

B. Transit Facilities

Project appropriation requirement . . . . $ 5,245

(1) Fire Protection at Locks - This multiyear project will provide a fire protection system at each locks, augmenting other fire fighting systems. The system will provide a means to effectively fight a fire within the locks and avoid damage to locks machinery, locomotives, miter gates, control or personnel. Funding required for FY 1987 is $1,900.

(2) Navigational Aids - This project provides for a variety of capacity and safety-related navigational aids needed to safely accommodate future Canal traffic increases. The objective of this project is to enhance Canal safety and improve the efficiency of transit operations. The FY 1987 funding, $1,055, provides for installation of harbor radar systems in the signal stations located at Flamenco Island and Cristobal ($620), and phased installation of an improved bank lighting system throughout Gaillard Cut ($435).

(3) Other Transit Facilities - This project provides funding for rehabilitation, repair, replacements, improvements and additions to transit facilities of the Panama Canal Commission. These facilities offer support to the transit function in order to insure the safe and efficient transit of vessels and effective support for all maintenance and improvement projects.

FY 1987 requirements for the rehabilitation, repair and replacement of transit facilities total $1,559 and include such items as consolidating first aid, safety and security facilities at Industrial Division ($351); rehabilitation of telemetry network station ($326); relocating launch operations and Port Captain, Cristobal ($194), resurfacing parking areas at Industrial Division ($147); rehabilitation of meteorological-hydrographic field station ($94); reroofing Atlantic training facility ($82); rehabilitation of electrical system, Building 31-A, Dredging Division ($69); replacing air conditioning systems at Rodman and Corozal fire stations ($65) and other miscellaneous projects ($231). Improvements and additions to transit facilities total $731 and include installing a fendering system and dolphins at the Industrial Division Tug/Locks Miter Gate Repair facility ($297), addition of refueling facilities at Miraflores tug landing ($184), and security improvements ($250).

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$15,807	$ 8,165	$ 7,090	$ 5,245	$25,828
Expenditures	Recurring	$11,615	$11,066	$ 8,381	$ 5,245	$25,828

II. UTILITIES PROJECTS (all dollars in thousands)
Total appropriation requirement for Utilities Project Group $4,205

A. Utility Systems
Total appropriation requirement $4,205

(1) Electrical Power and Communication Systems - This project provides capital funds for the power transmission and communication systems of the Commission. These items will insure power transmission versatility and dependability in addition to reducing equipment failure due to overloads. The equipment procurements for the power transmission system will provide replacements and modifications needed to serve high peak demand and will correct poor voltage and overload conditions in the high and low voltage system networks. In FY 1987, funding required for additions totals $266 to add fire protection for transformer vaults. Replacement, rehabilitation and modification projects total $2,589 and include such items as consolidation of the Commission telephone system ($660), replacement of the Marine Traffic Control communications console system ($468), replacement of protective relay systems ($427), replacement of Marine Bureau and other radios and radio equipment ($265), replacement of microcomputer systems ($125), replacement/modification of digital network equipment ($90), replacement of data transmission equipment ($85), replacement of power system substation equipment ($85), replacement of microwave equipment ($80), replacement of the air conditioning system, Building 40, Balboa ($94), replacement of telephone system equipment ($80), and other miscellaneous electrical power and communication system equipment ($130).

(2) Water System - This project provides for capital investment in the water purification plants, pump stations, distribution lines, and the central chilled water air conditioning system.

FY 1987 funding provides for replacement of sedimentation basin drain valves at Miraflores Filter Plant ($835), replacement of water main sections at Cardenas River and Building 729, Balboa ($244), replacement of motor operated valves and compound meters ($150), replacement of surge suppressors ($78) and other miscellaneous small equipment related to the water system ($43).

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$ 2,601	$ 2,068	$ 4,921	$4,205	-
Expenditures	Recurring	$ 622	$ 2,359	$ 6,609	$4,205	-

III. GENERAL SUPPORT PROJECTS (all dollars in thousands)

Total appropriation requirement for General Support Projects . . $5,290

A. General Support Equipment

Total appropriation requirement $3,260

(1) Replace Motor Vehicles - This project provides for the replacement of overaged motor vehicles which have reached the end of their economic service life. Funding for FY 1987 of $2,485 provides for the purchase of 41 passenger-carrying vehicles, including 20 large heavy duty sedans, 20 compact sedans, 1 ambulance, and 87 non-passenger carrying vehicles, including light trucks, medium trucks, heavy trucks, and special-use vehicles.

Large heavy duty sedans are required for trans-Isthmian transportation of the pilot force. Replacement vehicles will be essentially of the same type, size, and capacity of U. S. manufacture.

All vehicles being replaced will exceed the age and/or mileage standards prescribed by the General Services Administration at the time of replacement. At this time, approximately 45% of the motor vehicle fleet exceeds the minimum replacement standards.

(2) Other General Support Equipment - This project provides for the procurement of small plant and equipment that have reached the end of their serviceable life and are no longer economical to maintain. General services requirements for FY 1987 total $335 and includes replacement of miscellaneous tools for diagnostic evaluation and repair of motor vehicles ($79), replacement of dollies and trailers ($81), replacement of 3-ton diesel fork lifts ($74), and replacement of miscellaneous items ($101).

The administrative and general functions of the Commission require replacement of such items as graphics equipment ($110), computer peripheral and on-line equipment ($49), training aids and equipment ($42), microfilm and related equipment ($36), and other miscellaneous equipment ($40). Administrative and general functions require the addition of computer peripheral and on-line line equipment and computer software packages ($85), a diesel engine training laboratory at the Apprentice School ($42), and word processing equipment at the Apprentice School and Employee Development Training Center ($36).

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$ 1,945	$ 2,699	$ 3,574	$3,260	-
Expenditures	Recurring	$ 1,227	$ 2,179	$ 4,812	$3,260	-

B. Commission Buildings and Facilities

Total appropriation requirement $1,340

(1) Commission Buildings - This project provides capital funding for the maintenance and improvement of approximately 153 Commission structures and facilities under the administrative custody of the Buildings Management Branch.

These miscellaneous replacements, additions, alterations, and rehabilitations are required to accommodate the essential needs of Commission units for day-to-day operations or because of changes in mission. Included in this capital project are such items as the replacement of roofs, installation of security systems, rehabilitation/replacement of various sized central air conditioning systems as required due to obsolescence and the necessity to reduce the high levels of electrical energy consumption. FY 1987 funding provides for such items as the installation of a security system in Building 42-D, Diablo ($121), and other miscellaneous building and facility improvements ($129).

(2) Supporting Services Facilities - This project provides for capital investment in support services facilities necessary for the efficient operation of the Canal. FY 1987 funding provides for such items as resurfacing the heavy equipment shop and parking area ($248), and replacement of the truck wash ($244) at the Motor Transportation Division, Ancon; reroofing the main Storehouse, Building 5083, Cristobal ($445) and other miscellaneous facility improvements ($153).

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$ 568	$ 914	$ 1,978	$1,340	-
Expenditures	Recurring	$ 370	$ 332	$ 2,758	$1,340	-

C. Other Miscellaneous General Support Projects

Total appropriation requirement $690

(1) Minor Capital Items - This item totals $190 and provides for minor additions ($20) and replacements ($170) which are unforeseen or are too small to warrant separate listings and justifications. Approval of the Administrator is required for inclusion of a project in this item.

(2) Advance Engineering, Planning, and Design - This project totals $500 and will provide an authorization to be used for engineering and planning work on projects included, or to be included, in the Commission capital program for subsequent fiscal years. The advance allows the detailed design effort to be completed on projects selected for accomplishment so as to permit their timely advertisement and award.

	Project Total	Through FY 1984	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate	Subsequent Years
Obligations	Recurring	$ 675	$ 504	$ 1,250	$690	-
Expenditures	Recurring	$ 540	$ 497	$ 1,392	$690	-

PANAMA CANAL COMMISSION
IMPACT OF GRAMM-RUDMAN REDUCTIONS ON THE PANAMA CANAL COMMISSION IN FY 1986

This addendum presents the Commission's FY 1986 budget reductions, as ordered by the President, pursuant to Public Law 99-177. Pursuant to that order, the Commission's budget authority is reduced by $18.3 million. It should be emphasized, however, that this reduction will in no way contribute towards the Federal deficit reduction goals, but will, instead, only serve to generate a profit payment to the Government of Panama. This is because revenue is produced by demands placed on the Canal by its customers, which will continue regardless of the imposed reductions in funding. The overlooked result, therefore, of applying the Gramm-Rudman Act to the Commission will be to deny critical resources to the U. S. operated Panama Canal, and transfer those resources to the Government of Panama.

The Panama Canal Commission is, by law, a self-sufficient operation with all appropriations covered by receipts collected from ships transiting the Canal and other services provided its customers. Its mandate is to operate on a break-even basis at no cost to the U. S. taxpayer; but whenever annual revenues exceed annual operating costs, that profit must be paid to Panama in accordance with Article XIII, paragraph 4(c) of the Panama Canal Treaty. Also, because of the cumulative requirement of that provision, beginning with FY 1980, Panama will be entitled to any profit realized in FY 1986 up to $53 million.

The magnitude of the reductions required by the Act will impact adversely on the continued efficient operation of the Canal, which is the responsibility of the United States. To meet the lower funding levels imposed, it will be necessary to reduce critical Canal maintenance programs and reduce essential manpower requirements through reductions in force or furloughs, and forego desired capital investments. These reductions are particularly difficult to apply to Canal operations because of the large amount of statutory-derived costs to which reductions cannot be applied. Such costs include payments to Panama, mandated by the Treaty, and the Commission's special contribution to the Civil Service Retirement Fund. Commission programs are planned, and manpower requirements carefully set at levels determined necessary to insure the smooth and uninterrupted flow of traffic through the Canal.

The attached schedule identifies the uniform application of reductions to our various programs, exclusive of those aforementioned statutory fixed costs.

PANAMA CANAL COMMISSION
IMPACT OF GRAMM-RUDMAN REDUCTION

PROGRAM	1986 Approved Est.	Gramm-Rudman Reduction	1986 Revised Est.
	(In thousands of dollars)		
Operations:			
Transit Operations:			
Maint. of Channels, dams, spill	29,258	1,644	27,614
Navigation Service and Control.	70,043	3,935	66,108
Locks Operation & Maintenance .	44,653	2,508	42,145
Gen'l Repair, Eng. & Maint. ...	17,573	987	16,586
Fire and Security	9,519	535	8,984
Payments to Panama	74,343	...	74,343
Other General Canal	15,209	855	14,354
Total	260,598	10,464	250,134
Supporting Services:			
Logistical Services	10,255	576	9,679
Motor Transportation	8,334	468	7,866
Power System	23,005	1,293	21,712
Communications System	5,234	294	4,940
Water System	5,988	336	5,652
Central Air Conditioning	1,579	89	1,490
Housing	4,169	234	3,935
General Support Services	5,918	332	5,586
Total	64,482	3,622	60,860
Administrative and General	75,204	3,126	72,078
Total Operations	400,284	17,212	383,072
Capital:			
Transit Operations Projects ...	16,735	720	16,013
Support Services Projects	5,252	226	5,026
Utility Projects	3,513	151	3,361
Total Capital	25,500	1,097	24,400
Total PCC	425,784	18,309	407,475

United States Railway Association

Justification of:

Administrative Expenses

Fiscal Year 1986
and
Fiscal Year 1987

Prepared for
The Committees
on Appropriations

April 1986

JUSTIFICATION OF:

ADMINISTRATIVE EXPENSES
FISCAL YEAR 1986
AND
FISCAL YEAR 1987

Prepared for

THE COMMITTEES ON APPROPRIATIONS

UNITED STATES RAILWAY ASSOCIATION
955 L'Enfant Plaza North, S.W.
Washington, D.C. 20595

April 1986

UNITED STATES RAILWAY ASSOCIATION

Fiscal Years 1986 and 1987 Justification

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For fiscal year 1987 the Office of Management and Budget (OMB) not only eliminated from the President's Budget the United States Railway Association's (USRA) request for new budget authority of $2.3 million, but also proposed to be effective on March 31, 1986 the rescission of $640,000 of USRA's fiscal 1986 funding. This action was taken by OMB under the erroneous conclusion that "The activities of the USRA will be completed in the middle of 1986 [and] the agency will have no function thereafter." March 31 has come and gone and Congress has taken no action to effectuate the proposed rescission since USRA is actively engaged in analyses of various documents and issues involved in the Administration's proposal to sell Consolidated Rail Corporation (Conrail) to Norfolk Southern Corporation. Although the Senate on February 4 approved S.638 (Conrail Sale Amendment Act) by a vote of 54 yeas to 39 nays, the House of Representatives has not acted and the date, means and status of Conrail's return to the private sector is still uncertain.

Congress provided USRA with $2.4 million of new appropriations (Public Law 99-190) for the current fiscal year but such funding was reduced 4.3 percent or $103,000 by the provisions of Public Law 99-177 (the Gramm-Rudman-Hollings balanced budget Act).

Heretofore, Congress made an affirmative decision that USRA's monitoring functions of Conrail and its analyses of proposals to sell Conrail shall continue until Federal divestiture of the railroad is accomplished. Should such divestiture not be consummated in this fiscal year, USRA anticipates the need for a minimum appropriation of $2.3 million for fiscal 1987. An appropriation of $2.3 million will provide for approximately 22 full-time employees who are essential if USRA is to responsibly carry out its statutory duties and to react efficiently and effectively to Congressional requests for analyses of a variety of issues attendant to the return of Conrail to the private sector.

Statutory Mandate

The Northeast Rail Service Act of 1981 (NERSA) mandated USRA to perform certain specific functions, among which are:
Section 1148:

"FUNCTIONS OF USRA"

"The Association is authorized to--

"(1) monitor the financial performance of the corporation;

"(2) review whether the goals and requirements of this Act are met;

"(3) purchase or otherwise acquire or receive, and hold and dispose of securities (whether debt or equity) of the Corporation under sections 216 and 217 of the Act and exercises all of the rights, privileges, and power of a holder of any such securities."

Section 1150:

"UNITED STATES RAILWAY ASSOCIATION REPORTS"

"Progress and Evaluation--

"(1) The Association shall prepare and submit to Congress periodic reports on the progress of the Secretary in carrying out the provisions of titles II, III, and IV of this Act.

"(2) Reports . . . shall include an evaluation of the performance of the Corporation in order to keep the Congress informed as to matters which may affect the quality of rail service in the Northeast and which may affect the security of Federal funds invested in the Corporation."

House Energy and Commerce Committee Requests

The House Energy and Commerce Committee has called upon USRA and USRA's-retained investment banking firm, Lazard Freres, to analyze in minute detail the proposed sale of Conrail to Norfolk Southern Corporation as well as the proposed Conrail public stock offering advanced by Morgan Stanley and Company. State and local government representatives in the Conrail region and shippers throughout the Nation have expressed great concern for anti-competitive effects and the dislocation of employees of Conrail, the CSX Corporation, and of Norfolk Southern itself should the sale of Conrail to Northern Southern be approved by Congress. Others are concerned about the $1.2 billion purchase offer advanced by Norfolk Southern. In addition to the Energy and

Commerce Committee's primary jurisdiction over this proposed sale, each of the Appropriations, Judiciary, and Ways and Means Committees as well as the Congressional Budget Office has a substantial interest therein. Thus, it is apparent that the sale of the Government's eighty-five percent stock ownership of Conrail will not be consummated, if at all, until much later in this fiscal year or even thereafter.

1987 Conditional Budget Authority for USRA

For several years now as personnel were terminated and changes occurred in its work program, USRA realized year-end carryover funds from the release of rented space, sale of furniture and fixtures, and reimbursements received from other Federal agencies for use of USRA's automated data processing equipment. For example, at the close of fiscal 1984 USRA had $615,000 to carry over to the 1985 fiscal year, but that situation changed drastically last year when there was no furniture or equipment for sale and the user Federal agencies either had no further need for USRA's data processing equipment or turned to other sources for long-term commitments which USRA was unable to make. As a result USRA (through the General Services Administration) disposed of its ADP equipment to the District of Columbia government effective last September 30, and it has reduced its personnel complement to 22. Whenever Conrail is returned to the private sector, lease requirements, disposal of furniture and equipment, and the orderly dissolution of the Association will require a period of four to six months; and, as a matter of established personnel policy for several years, USRA has provided terminated personnel with a 90-day period in which to accomplish the transition from USRA to other employment.

In the event that Congress either does not approve the Secretary of Transportation's recommendation to sell Conrail to Norfolk Southern or approval is not granted in this fiscal year, USRA will require an appropriation of $2.3 million for fiscal 1987. The attached table reflects continuing annual reductions by USRA of its budgetary needs as its obligations for litigation, etc. have been completed. USRA will continue that course until such time as there is no further need for its existence.

UNITED STATES RAILWAY ASSOCIATION

ADMINISTRATIVE EXPENSES

($ 000)

Function/Activity	FY 1982 (Act)	FY 1983 (Act)	FY 1984 (Act)	FY 1985 (Act)	FY 1986 (Est)	FY 1987 (Est)
Conrail Performance Evaluation	$ 5,547	$ 3,283	$ 3,112	$ 2,673	$ 2,232	$ 2,205
Litigation	2,992	558	183	95	95	95
Alaska Railway Study	-0-	600	100	-0-	-0-	-0-
Total	$ 8,539	$ 4,441	$ 3,395	$ 2,768	$ 2,327	$ 2,300
Type of Cost						
Personnel Related Costs	$ 5,792	$ 2,668	$ 2,293	$ 2,015	$ 1,739	$ 1,710
Travel	93	66	31	28	30	30
Printing	22	9	8	2	5	5
Supplies	71	42	32	28	30	30
Furniture & Equipment	77	10	3	23	-0-	-0-
Rents, Utilities and Communications	1,273	573	426	472	403	405
Contractual Administrative Services	342	206	213	147	20	20
Contractual Professional Services	869	867	389	53	100	100
Total	8,539	4,441	3,395	2,768	2,327	2,300
Financing						
New Appropriations	$ 9,000	$ 2,950	$ 2,100	$ 2,100	$ 2,297	$ 2,300
Transfer from Conrail Securities Approp.	-0-	-0-	400	-0-	-0-	-0-
Reimbursements	222	1,160	1,037	80	-0-	-0-
Recoveries	-0-	82	23	3	-0-	-0-
Carryover from Prior Fiscal Year	16	699	450	615	30	-0-
Subtotal	9,238	4,891	4,010	2,798	2,327	2,300
Carryover to Next Fiscal Year	- 699	- 450	- 615	-30	-0-	-0-
Total	$ 8,539	$ 4,441	$ 3,395	$ 2,768	$ 2,327	$ 2,300